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THE CANADA LANCET

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THE PRESIDENT'S ADDRESS.

Being a Verbatim Report of the Address of Dr. H. H. Chown, of Winnipeg, at the Annual Meeting of the Canadian Medical Association held in Winnipeg on Aug. 28th.

AS this is the first time that the Canadian Medical Association has met in Manitoba I would like briefly to call attention to the future of the province. With less than 10 per cent of the arable land under cultivation our farmers this year have a crop estimated to yield 85 million bushels of grain. In the Territories to the west of us only about one-tenth of one per cent. of the available crop area has yet been touched by the plough. Between the Laurentian hills on the east and the Rocky mountains on the west and north of the forty-ninth parallel it is possible to grow the total amount of wheat now used in the whole world. We want population and we hope to make each of you a willing immigration agent.

Winnipeg is a young and vigorous infant, but I must not delay to point out its many interesting features. I have seen it almost from its birth onward and would probably be paternal in my estimation of its charms. Babies have their moments of repulsiveness and you will find many things to criticize in this growing city, but I trust you will

“Be to its faults a little kind,
Be to its failings ever blind.”

It is within the scope of an address to a medical association to refer to the work performed here for the purpose of making the city a healthy one. Notwithstanding the level nature of the land, an excellent system of sewers has been introduced through all the streets. Arrangements have been made for regular flushing of the sewers by means of tilting basins at the upper end of each main sewer. As we have two rivers at our doors the problem of removing sewage was easily and safely solved.

The water supplied to our people is as pure as can be found in the world. Vienna boasted of having water which contained only 35 colonies of bacteria and had therefore to all intents and purposes a sterile water. A similar examination of the city water showed that there were in it only 9 to 30 colonies. A visit to the waterworks would well repay any

one who can spare the time. The water is taken from an artesian well 17 feet in diameter and 48 feet deep, and although they have been pumping for months a supply of from 2,000,000 to 3,000,000 gallons per day there is not the slightest evidence of any diminution of the amount flowing in. The well is supposed to tap an underground passage which runs from Lake Manitoba and as this lake is 130 miles long the supply is inexhaustible. The underlying rock formation in this section is a magnesian limestone and consequently the water contains a large amount of the carbonates of lime and of magnesia and is too hard for satisfactory use in boilers and hot water appliances. This is overcome by using Clark's method of softening by precipitation of these carbonates through the action of lime water. Seventy-five per cent. of the lime and 50 to 60 per cent. of the magnesia or 68 per cent of the total hardness is removed. The softening plant is unique on this side of the Atlantic and well deserves study at your hands. The water when taken from the taps in our homes is so cold that it requires no ice and the danger of importing disease germs in the ice is thus eliminated. The citizens of Winnipeg, both those of to-day and those of the future, will ever owe a debt of gratitude to the engineer, Col. H. N. Ruttan, who discovered the source, inaugurated the system, and carried it through to so successful an issue.

During the past year the subject of tuberculosis has continued to hold the paramount place in the interest of the profession. Congresses have convened at London, New York and Ottawa, for the discussion of this white man's scourge and for the formulation of means to overcome its sway. As Friday evening will be devoted to the full discussion of the subject I shall only call your attention to one point which I believe would well repay thorough investigation. Koch's tentative denial of the oneness of tuberculosis of man and tuberculosis of cattle still needs the proof of non-inoculability from cattle to man. In this new country when our farmers, young and free from tuberculous taint, live in newly-built houses which harbor no bacilli and are separated by long distances from their neighbors, tuberculosis constantly makes its appearance. We have here unconsciously, but no less disastrously, an experiment on a wide scale. If you can eliminate heredity, house infection and contagion from other cases, to what cause can you ascribe the origin of these outbreaks? Add to this that in every case where the farmers' cattle have been tested by tuberculin some of them have reacted strongly. The juxtaposition may not be proof positive, but its continuous recurrence certainly is suggestive. If our government would back up financially a careful study of this one point I am inclined to believe that information of great value would be obtained. Indeed, without assistance from the ruling authorities, the progress of stamping out this disease will be slow and disappointing. You can get money appropriated to suppress outbreaks of glanders or of lump-jaw, but when you appeal for aid in lessening the greatest scourge of the human race, you will find that the coffers are always empty.

Medical education continues and will continue to demand great attention at your hands. I commend very strongly to you the plan of Dominion registration as introduced by Dr. Roddick. Why should each practitioner who desires for any reason to move from one province to

another, be compelled to pass examinations that would pluck 99 per cent. of the examiners? Why should our respected teachers who were fathers in the profession in Canada when we were in swaddling clothes, be made to submit to quizzing at the hands of those whom they instructed? The present system seems to me to be based on unnecessary self-appreciation on the part of some and base fear of competition in others. It is not the number of years given to study, or the number or variety of lectures attended that makes the competent practitioner. As an examiner and as a consultant I have often found the greatest failures among those who passed through curricula that are most lauded and most strongly supported. I regret that in the highest standard now demanded for matriculation no place has been given to logic and metaphysics. Every workman who knows the nature of the tools he uses is more reliable and more proficient than his ignorant neighbor. Surely a clear knowledge of the mind and a thorough study of the laws of reasoning would form an invaluable addition to the equipment of the physician. The present mode of training our students makes keen their powers of observation, but leaves them without any conception of how to join together all the disjointed facts that have been noted into an accurate and full diagnosis. Want of clear reasoning is more frequently the cause of mistakes than inability to gather together the symptoms of the case. Then how much more satisfactorily would cases of mental instability be dealt with if the physician understood the functional, if I may use the word, disturbances to which the mind is liable. Would there be the same field for Christian science, hypnotism, telepathy, osteopathy, electrical treatment, if we were well posted in the important influence of mind on matter. The almost universal habit of giving a prescription of drugs to each one applying for relief from neurotic affections, is the foundation on which is constructed the greater part of the success of quack treatment. An honest acknowledgement of our inability to locate the cause of many pains and a strong demand for further opportunities of observation, would ultimately redound to our credit, though for a moment a crude denunciation might follow us.

It would be the height of presumption for me to describe the status of medicine but it may be interesting to review the account of our knowledge a hundred years ago. We all know the commanding sphere occupied by our science and art now, but few have taken the trouble to inquire as to the real knowledge possessed by our predecessors at the beginning of the nineteenth century. Bichat, early in the century, announced the difference between pneumonia, pleurisy and bronchitis. This differentiation was made on constitutional symptoms as the physical examination of the lungs was unknown. Although percussion was employed over a hundred years ago, mediate auscultation was first introduced by Larence when one fifth of the century had passed by. The description given by Watson of tubercle is worth comparing with our present knowledge. "Tubercles," he says, "are composed of unorganized matter deposited from the blood, of a yellowish color, opaque and friable and of about the consistence of cheese." This corresponds well with the process of caseation as we know it to-day. He also describes miliary

tubercles very clearly. "The lungs are often studded with a number of small granules of firmer consistency, almost as hard as cartilage, and of a bluish-gray color." "Whatever," he adds, "may be the true theory respecting these little gray bodies, it is certain that they acknowledge some intimate connection with the true cheesy tubercle." How much clearer is our knowledge of this disease now, and how widened is our conception of the role played by the bacillus tuberculosis.

There was no distinction known between the varied forms of continued fever when the last century began. Typhus and typhoid fever were not differentiated. Yellow fever was believed to be due to local unsanitary conditions and to be separated from other febrile disorders only by its severity and by its limited locality. "To say that a febrile disorder is contagious is the same thing as to say that it is produced by an animal poison. These animal poisons affect changes in the blood whereby they are abundantly multiplied or reproduced. In order that a specific animal poison should effect its own reproduction in the blood it is requisite that a certain ingredient should be present. If the ingredient is exhausted the same disease cannot be again produced by the agency of the poison." This is really a very clear statement of our doctrine of contagion and immunity requiring few changes to meet our present day knowledge.

Malarial fever was supposed to be caused by "certain invisible effluvia or emanations from the surface of the earth." The role of the festive mosquito in spreading this disease as well as yellow fever was then undreamed of. They did not believe in the contagiousness of phthisis but explained its prevalence by constitutional predispositions. Diathesis figured largely in their etiology. Watson states that tubercular diseases are liable to occur principally in the phlegmatic with pale complexions, narrow chests, flabby muscles and feeble circulation; in the sanguine with transparent, rosy skin, long silky eyelashes, and unusual mental precocity; and in the bilious with dark, muddy complexions and mental and bodily sluggishness. Surely under these three heads all of mankind would be included and the value of the explanation rendered useless.

The energetic agent of proprietary drugs was as active then as to-day and found a too easy and credulous hearer among the doctors. I learn from a presidential address delivered before the Medical Society of the State of New York, that "indicated gout water" the composition of which was unknown, was nevertheless approved of fully by the faculty in London, Paris and New York. How many of us to-day succumb to the temptation of using some much vaunted remedy about which our total knowledge is embraced in the puffing of some verbose commercial traveller? As a proof that there is nothing new under the sun, I may mention that in 1810 the "gold cure" was recommended to the attention of every practitioner. This most valuable discovery was said to cure "syphilis, scrofula and scirrhus uterus," and more still, to have succeeded in nearly every trial. Credulity was rampant then as to day, and the poor patients were compelled to swallow gallons of chemicals whose only potency lay in the assumed promises of the prescriber. Palatability

is much more sought after to-day, and the belief in efficacy of a mixture as proportionate to its nauseousness has passed away. This is partly due to developments in chemical analysis, for a century ago, they had Cinchona bark, but not quinine, opium, but not morphine, nux vomica, but not strychnine. Bleeding was in constant use, and the heroic way in which it was performed must evoke our admiration for the courageousness of both patient and physician. They counted blood not by ounces, but by pints. Even after this onslaught upon the life-giving fluid they did not hesitate to follow on with such doses of purgatives and emetics as would cause the ruin of professional standing in any one who ventured such medication to-day. I can only explain the recovery of their patients by the surmise that they became so limp and helpless that the fair and honorable disease germ retired from the contest rather than gain a victory over so poor an antagonist.

In surgery greater progress has been made than in any other department of our art and science. Wounds in 1800 were supposed to require inflammation to produce union "*pus bonum et 'laudabile'*" accompanied forms of inflammation and indicated that all was going regularly. As they had no anaesthetics they resorted to the use of infusions of tobacco taken internally to place their patients in the conditions of the sea-sick passengers who is so prostrate that he cares not what operation is performed so long as the end comes quickly. Too surely indeed did death follow the use of the knife, for those who survived the shock had to run the gauntlet of that list of wound infections which has now been almost banished by antiseptics. The appreciation of surgical cleanliness as taught by Lord Lister and his followers has enabled the surgeon to widen the field of his labors, so that scarcely any part of the human body has during the past twenty years escaped the use of the knife. I have not heard of anyone removing the pineal gland and possibly this holds the proud position of being the only unassailable organ. But I warn it not to be too elated or some surgeon will snatch world-wide fame by removing it. The safety with which major operations can be performed, the slight amount of pain which follows and the rapidity with which the wounds heal, make the practice of this branch of medicine an attractive and alluring occupation. It is unnecessary for me to enter into a detailed account of the newer operations now performed, the change has been too recent and too striking to have escaped the notice of every practitioner.

Anaesthetics and antiseptics have played a benevolent role not only in surgery but also in obstetrics. The expectant mother can await her approaching confinement without dread of agonizing pain, as the modern accoucheur will control with chloroform the most violent suffering. Puerperal fever has been largely suppressed by our recently acquired knowledge of its cause and the application of the necessary means of prevention. Deaths from the sequelae of childbirth have been greatly reduced during the last quarter of a century.

What has the future in store for us? I will not attempt to prophecy as my qualifications are not all attested. We all know that there are large questions yet to be settled and therefore the need for patient and preserving investigation is still paramount. Bacteriology

and haematology are in their infancy, but have been so illuminating in their short development that we expect a flood of light yet to come from these sources. No one can sit down complacently and feel that the summit has been reached, rather should each of us resolve to work more faithfully, in even a humble capacity to add to even the sum of the knowledge of our chosen profession. Can not some one grasp the kernel of truth that underlies the fallacies of Christian Science, Dowieism, faith-healing et hoc genus omne? Are we not too prone to rely on drugs and to forget the control of mind over body? If many of the ailments brought to our notice are imaginary then why not treat through the source of the imagination rather than through the stomach? I feel that a duty rests upon us to get at the true cause of all forms of disease and rescue the public from both the honest fanatic and the ignorant pretender by doing not only all that these claim, but doing more and doing it better.

Let me conclude this address by quoting a layman's opinion of what a physician should be and do. The standard is a high one and if we can measurably achieve success in the direction pointed out we will do much to gain and hold the confidence of the public as the only true guides in matters of health and sickness.

The Rev. J. M. Buckley, of New York, says :—"An intelligent, educated, experienced and candid physician studies both the mind and the body, relieves the sick man of the responsibility of treating himself, strengthens him by hope, and encourages him by his personal presence and manner. He understands the mineral, plant and animal substances included in the *materia medica*, he knows that not medicine, but inherited vital force is the primary cause of health and healing, and of the repair of injuries. He knows also by observation and experiment that nature can be assisted, but he interferes only when it is safe and necessary, such a physician is too learned and too honest even to do he knows not what, because he knows not what to do. He can relieve the pains of innumerable diseases, smooth the pathway of sufferers to the inevitable end and to convalescents he can give such hygienic hints as may permit the return of the malady or save them from something worse. Certain that all men must die and that all die of old age, disease, accident, or intentional violence; he claims by hygiene, medicine and surgery, to assist nature to delay the inevitable and to render the journey to it more endurable."

*THE WINNIPEG MEETING OF THE CANADIAN MEDICAL ASSOCIATION.

BY GEORGE ELLIOTT, M.D., Secy. Canadian Medical Association.

IF numbers count, if quality of papers counts, if social functions count, then the 34th annual meeting of the Canadian Medical Association in the City of Winnipeg, in the year 1901, must be pronounced the best meeting,—and has been pronounced by “old-timers,” the best meeting since this Association was organized in 1867. We know that comparisons are generally deemed odorous, but honour must be placed where honour is due; and although not quite up to the Toronto meeting of 1899, so far as numerical representation is concerned, the Winnipeg meeting must take first rank in everything else and second place by actual count. On the first day there were registered 130, an unusually large representation for the initial day. Altogether 177 signed the register, being 24 in excess of the meeting at the Capital last year. Promptly at 10 o'clock on the morning of the 1st day, the President, Dr. H. H. Chown of Winnipeg, called the meeting to order. On the platform were Drs. R. W. Powell of Ottawa, past-president of the Association and F. N. G. Starr, general secretary. Chief Justice Killan, who was down to deliver the address of welcome was indisposed; the President called upon Dr. J. H. O'Donnell of Winnipeg to officiate in his absence. In a brief but interesting address. Dr. O'Donnell reviewed the history of the medical profession in that city since the year 1869, the date when he appeared upon the scene, a time when Winnipeg was but an outpost of civilization situated on the crumbling banks of the Red River within the sounds of the bells of St. Boniface made famous by the poet Whittier. When Dr. O'Donnell arrived upon the scene in 1869 he found located there several able men in the ranks of Medicine: Dr. Cowan who had lived in Edinburgh University, the late Curtis J. Bird who received his preliminary education at St. John's College and who remained for sixteen years in Guy's Hospital, Dr. Beddon and Dr. Bund, the latter being one of the most learned of men. At the close of the address of welcome Dr. R. W. Powell stepped forward to introduce the President-elect. Dr. Chown briefly returned thanks for the honour which had been conferred upon him one year ago at Ottawa, and welcomed the visiting delegates on behalf of the profession of Winnipeg. Upon motion Dr. Edebohls of New York and Dr. Stanley Sutton of Pittsburg were welcomed to the Convention and requested to participate in the discussions.

The first subject was the question of a formation of a Medical Defence Union. At Sherbrooke in the eastern townships an organization of this character has existed now for some little time having a membership of something over sixty and working with eminent satisfaction under the

* Written specially for THE CANADA LANCET.



DR. H. H. CHOWN
WINNIPEG
PAST PRESIDENT CANADIAN
MEDICAL ASSOCIATION



DR. TODD, WINNIPEG
CHAIRMAN RECEPTION COMMITTEE



DR. W. HARVEY SMITH
WINNIPEG
RECEPTION COMMITTEE



DR. GEORGE ELLIOTT, TORONTO
SECRETARY-ELECT OF CANADIAN MEDICAL ASSOCIATION

patronage of The St. Francis District Medical Association. This Association had delegated Dr. Russell Thomas of Lennoxville, Que., to proceed to the meeting of the Canadian Medical Association, to lay before that body the scheme of Medical defence which they had adopted, and to hand it over entire to the Canadian Medical Association if the latter deemed it advisable. A special committee was appointed on this matter one year ago at Ottawa, with Dr. V. H. Moore of Brockville as Chairman. In his absence Dr. W. S. Muir reported for the committee that a Medical Defence Union be organized, and that its name be the Physicians' Protective Association. The Canadian Medical Association unanimously adopted this report and elected the following officers for the first year:—President Dr. R. W. Powell, Ottawa; Secretary Dr. McKinnon, Ottawa; Treasurer Dr. James Grant Jr., Ottawa.

It is very gratifying to have to report that this matter has been finally settled and that a Medical Defence Union has been formed in Canada, which will hereafter be known as the Physicians' Protective Association. Dominion Registration came up once more for discussion and delegates from every province, who were present, except from Prince Edward Island, pledged their respective provinces in favor of Dr. Roddick's Bill. The address in medicine was delivered by Dr. J. R. Jones of Winnipeg, who dealt in a masterly manner with the question of Medical Education. He considered that the great aim of the medical profession at the present time in Canada was to create a Dominion Medical Board, upon a sound and enduring basis, and through the instrumentality of the Canadian Medical Association,—a Board whose qualification can be registered in every Province of the Dominion. And he further thought that the profession in Canada should not rest there but should proceed until the qualifications should not only be Canadian but Imperial as well, capable of registration in Great and Greater Britain. He directed the force of his criticism upon Medical Matriculation Examinations, the most lamentable defect in these being always found in the English paper. The criticism is a timely one; and examiners for Universities who pass students on into medical studies poorly equipped in elementary English are doing a grave and serious wrong to the profession of medicine and the community in general. The didactic lecture, too, had the searchlight turned upon it and much sympathy was expressed for the over-lectured and undertaught student. Particularly, was the didactic lecture on Anatomy singled out; and the lecturer voiced his opinion that persistent work in the dissecting room under the guidance of an experienced demonstrator who will be constantly describing, discussing, and orally examining the student, was the rational and effective method of teaching Anatomy. Dr. Jones upheld the "case" method of teaching advocated by Mr. Cannon of Harvard University in 1900.

The President's address was delivered on the opening of the afternoon session of the first day. Dr. Chown first referred briefly to the City of Winnipeg and the Province of Manitoba, a province which is able to produce this year 85,000,000 bushels of grain. The excellent system of sewers of Winnipeg, and the water supply was also described. This water is as pure as any in the world, an examination of which would

show that there were from only nine to thirty colonies of Bacteria in it. Winnipeg derives its water from an artesian well seventeen feet in diameter and 48 feet deep and although from 2,000,000 to 3,000,000 gallons are pumped out per day there is no diminution in the supply, as the well is supposed to tap an underground passage connected with Lake Manitoba, a lake 130 miles long ; therefore, Winnipeg's water supply is inexhaustible. Dr. Chown made an important reference to the subject of tuberculosis, and as his reference is one full of food for thought, it is here quoted in full. " In this new country when our farmers young and free from tuberculous taint, live in newly-built houses which harbor no bacilli and are separated by long distances from their neighbors and tuberculosis constantly makes its appearance, we have here unconsciously but no less disastrously an experiment on a wide scale. If you can eliminate heredity, house infection and contagion from other cases, to what cause can you describe the origin of these outbreaks ? Add to this that in every case when the farmer's cattle have been tested by tuberculin some of them have reacted strongly." This is a point which will bear thorough investigation notwithstanding Koch's tentative denial of the oneness of tuberculosis of man and tuberculosis of cattle. A North Dakota epidemic was described by Dr. Jas. McKenty of Gretna, Manitoba. This paper gave an interesting account of an epidemic of Cerebro-Spinal Meningitis which occurred in the winter and spring of 1893, and which was limited to an area of fifty miles from east to west, and twenty miles from north to south. Twenty-five out of seventy cases ended fatally.

Dr. A. J. Macdonnell of Winnipeg, read a paper on a case of Splenic Anaemia ; while Dr. J. H. Hutchison of the same city devoted his attention to physical development, criticizing severely the system of education which developed the mind far out of proportion to the physical body. He also strongly advocated periodical lectures in the schools by duly qualified physicians to separate classes of boys and girls on the subject of sex. Dr. W. H. Pepler of Toronto, reported several interesting cases treated by the super-heated dry air method. Either as a result of Dr. Pepler's paper or having been gotten up specially for the delectation of the visiting members, a fierce hail storm broke over the city at this moment. As Dr. Pepler disclaimed any collusion in the matter this great display of nature must be set down to the anxiety of Winnipeggers to let the east see what the west could do in the way of a Manitoba blizzard in summer time. Many of the visiting delegates, however, braved the unusual inclement atmospheric conditions and dodged among the hail-stones to the Winnipeg General Hospital, where the directors were " at home " from 5 to 7 that afternoon. The visitors were shown through the various wards of the hospital and expressed surprise at the completeness of the appointments. A capital luncheon was served in the nurses' home.

On the evening of the first day a reception was given by the Ladies' Entertainment Committee, at Wesley College. This brought together a large and fashionable gathering which completely filled the beautiful convocation hall of the College. The Violin-playing of Miss Archer of Toronto, and the piano-solo by Mrs. Sanford Evans, were exceptionally fine and thoroughly appreciated by all ; while Dr. W. H. Drummond

captured the audience with "Johnny Gouteau" and "Lettie Bateese." The Association met promptly at 10 o'clock on the following morning, and proceeded with the election of a large number of new members. Dr. Evans of Wisconsin upon motion of Dr. J. F. W. Ross was tendered the privileges of the Association. The nomination of the Nominating Committee resulted in the following sixteen gentlemen being elected: Dr. Muir of Nova Scotia; Dr. Christie of New Brunswick; Drs. Bray, Rirdon, Bruce and MacDonald of Ontario; Dr. Roddick and Smith of Quebec; Drs. Kennedy, McKid and Smith of the Northwest-Territories; Drs. Lefevre and Tunstall of British Columbia; Drs. Blanchard, Harvey Smith and Thornton, Manitoba.

Dr. G. A. Kennedy, of McLeod, Alberta, contributed a paper to this session on the subject of mild small-pox which dealt with the recent outbreak of this disease in the Northwest Territories. It is particularly important to note that the greatest number of cases occurred amongst the French Halfbreeds who had never been vaccinated. Treaty Indians on reserves did not suffer to any extent, annual vaccination being the rule. And most noteworthy, not one case was seen or heard of amongst the Galicians, Doukhobors or Romanians, a fact due to compulsory vaccination in youth, and further, because they were re-vaccinated on their recent passage across the Atlantic and at Halifax. In discussing this question, Dr. Montizambert stated that the facts relating to the Doukhobors and Galicians was the most valuable portion of the whole paper. Dr. James Patterson, Quarantine Officer for the Dominion Government, furnished the following information for Dr. Kennedy's paper;—"There is a colony of Galicians east of Edmonton numbering nearly 10,000 souls. On the west and to the south-west of them is a colony of French Halfbreeds. Among the latter there were over 500 cases of all grades of severity. On the east of them is another colony of Halfbreeds, where about 100 cases existed. The breeds were unvaccinated; the Galicians thoroughly vaccinated. The breeds passed constantly from one colony to another, backwards and forwards through the Galician colony, yet not one case has occurred up to date amongst the Galicians." A very interesting case was related by Dr. J. F. W. Ross of Toronto,—a case of chronic ulceration of the stomach simulating cancerous disease; while "Some Forms of Hyperacidity and Their Treatment," was dealt with by Dr. C. F. Martin of Montreal. The following resolution was at this stage adopted by the meeting:—"Resolved that in view of the general prevalence of smallpox throughout the continent this Association desires to urge upon the profession and the public generally the necessity of vaccination and re-vaccination." The address on Gynecology was delivered by Dr. Thos. S. Cullen. This took the form of a lantern slide demonstration. The subject treated of was cancer of the uterus, a large number of excellent lime-light views being shown. The demonstration which occupied over an hour was thoroughly appreciated and at the close Dr. Eccles of London moved a vote of thanks to Dr. Cullen which was seconded by Dr. Gray of Winnipeg and adopted unanimously amid enthusiastic applause.

Another prominent feature of the meeting was the lantern demonstration on skin diseases conducted by Dr. Shepherd of Montreal. Amongst other views which were very interesting and instructive were cases of

smallpox, eruptions from salicylate of soda, cases of blastomycetic dermatitis, psoriasis of the nails and views of feigned eruptions. Dr. F. F. Westbrook of the University of Minnesota discussed the varieties of distribution of bacilli diphtheria and their clinical significance, exhibiting a carefully prepared chart which showed in tabulated form the results of numerous examinations in schools. An unusually interesting specimen was exhibited by Dr. H. A. Bruce of Toronto, a specimen of a hairy tumor which he had extracted from the stomach of a young married woman of twenty-six years of age. This mass of hair weighed twenty-three ounces, was two feet in length, was two inches in diameter at the larger end, and gradually tapered down to a point at the smallest. Dr. Laphorn Smith reported a case of transplantation of the ureter for cure of uretero-vaginal fistula. Three years ago when in Leipsic Dr. Smith saw Sanger perform this operation; and to Dr. Smith is due the credit of having been the first to perform this operation in Canada, and operation which has been highly satisfactory. Syphilis as seen by the ophthalmic surgeon was the title of a paper read by Dr. F. Buller, of Montreal, in which he stated his disbelief in the efficiency of the protiodide of mercury treatment at least as ordinarily administered. He does not believe it a reliable anti-syphilitic, pinning his faith rather to the inunction process or to gray powder. The subject of smallpox came up a second time for discussion which followed on the reading of a paper by Dr. H. M. Bracken, Health Officer of Minnesota, the subject of whose paper was an extensive one in that it sought to deal with the present outbreak of smallpox in America. According to Dr. Bracken, Cuba is likely responsible for the introduction of smallpox into North America, as it was probably imported by refugees from the island of Cuba before war broke out between that country and Spain. Dr. Russell Thomas asked a pertinent question,—“Where is the best vaccine manufactured? To this query, no one was good enough to vouchsafe any answer; although it would be valuable information to the medical profession at the present time. Dr. Bracken thought that vaccinate was frequently spoiled by being kept at a too warm temperature. It could be safely kept in an ice-box but must not be frozen. He believed that eighteen days was a proper time to quarantine people who had been exposed to infection. In the absence of Dr. W. Gordon M. Byers, of Montreal, Dr. C. F. Martin of the same city read a paper on the desirability of a recognition and isolation of trachomatous patients in Canada. The author believes that there are many unrecognized and untreated cases of Trachoma scattered here and there throughout the Dominion of Canada, in certain districts of Manitoba, in certain centres in the eastern counties of Ontario and others in Quebec; and he believes that it is high time the Dominion Government took action in the matter of barring our doors against Trachomatist immigrants. Dr. Montizambert said that the subject was under Government consideration.

A practical paper was that presented by Dr. J. L. Gray, of Chatham. It described the methods followed by the author in the treatment of cases of typhoid fever. Dr. Gray does not believe much in the cold bath or in cold sponging, but believes that frequent sponging with tepid water is just as good and not near so distasteful to most patients. In his hospital practice he is in the habit of using the electric fan after sponging with

the tepid water, and he has found this plan very satisfactory, especially to young and sensitive children. A marked and pleasing feature of the Canadian Medical Association was that all the leading addresses were delivered by Canadians, one of whom, according to Dr. Chown, has gone wrong in absenting himself from his native land. Dr. O. M. Jones, of Victoria, although not native born, is yet a Canadian practitioner. For several years he acted in the capacity of assistant to Mr. Treves, and his work on the Pacific coast is bringing him into world-wide prominence. In a quiet and unobstructive manner he delivered the address in surgery, taking for his subject the surgery of the stomach. He compared surgical diseases in Western Canada with those in the East, and stated that he had often found Western sufferers more impatient, which often demanded severer methods. He illustrated this by citing a humorous incident. A lodging-house keeper out West was informed that one of her lodgers was to have an operation performed on a Wednesday. She immediately sat down and wrote to the surgeon asking him to postpone it until Friday as her daughter was to be married on Thursday and she didn't want the corpse home until after the wedding. Dr. Jones has performed 26 operations on the stomach, his first operation being in 1893. He has performed gastro-enterostomy fourteen times with the Murphy button, and in only one case was there any trouble. Dr. Henry Howitt, of Guelph, Ontario, described an original operation for the relief of ovarian-tension pain, which consists in a number of cross-sections quickly made through the tense capsule of the ovary in such a manner as to divide it. Adhesions and hemorrhage give rise to no complications. The relief for the patient is both immediate and permanent. Dr. Laphorn Smith stated that he had never heard of this operation before and considered that it was original with Dr. Howitt.

The afternoon of the second day of the meeting was taken up by a pleasure trip down to lower Fort Garry. The "At Home" given by Mr. C. C. Chipman, Commissioner of the Hudson's Bay Company, and Mrs. Chipman at their picturesque residence on the banks of the Red River, was a social function held in honour of the medical men attending the Convention, which will long remain green in their memories. This Fort was built in 1831 by the Hudson's Bay Company, ten years after the erection of the fort of the same name at the junction of the Red and Assinaboine Rivers. Though seventy years old the buildings are still in splendid condition and far from falling into ruin. The place has been very carefully preserved and is now as habitable as when first erected. The 90th Regiment Band provided excellent music during the afternoon, and a splendid champagne lunch helped the medicals to forget the scientific delights of the foregoing session. Especially interesting in one of the rooms of the residence was what might be called the picturesque bordering of the wall paper. This, done by Indian hands and representing a Company of Blackfeet going out to do battle against another tribe of Indians, was very much admired and discussed by the visitors. It is needless to say that a very cordial vote of thanks was passed to the Commissioner and his lady for their hospitality. On the afternoon of the third day a special trip was made to the Ogilvie Mills where the process of milling was inspected in all its various branches by

the medicals, who, after passing from the dry mill, were regaled with another very fine champagne luncheon. Later on in the afternoon a reception was held at Government House where the Lieutenant-Governor and Mrs. McMillan showed what western gubernatorial hospitality was like. On the last evening a symposium on tuberculosis was held, which was introduced in an able paper by Prof. Russell, of the University of Wisconsin, who considered the subject of the "great white scourge" from two aspects; first, from the stand point of animal industry, and second, from that of public health. Dr. A. J. Richer, of Montreal, contributed to this symposium by reading a carefully prepared paper on the sanitarium treatment of tuberculosis, which he considered is made up of rest, out-door life, over-feeding and medical supervision, the latter of which he described as the key-note to success in phthisical treatment. Dr. Gilbert Gordon, of Toronto, contributed a paper on the aetiology and the early diagnosis of pulmonary tuberculosis. These papers incited a prolonged discussion in which Dr. Lafferty, of Calgary, warned the profession in Ontario against sending advanced cases to the Northwest Territories. Dr. Barrick of Toronto took part in this discussion pointing out that Ontario was leading in regard to the treatment of tuberculosis and he said that he hoped to see the Sanitarium brought with a wide open door to all conditions of life. At the suggestion of Dr. Brett of Banff, a Resolution was unanimously adopted calling on the Parliament of Canada to grant aid in the providing for the establishment of Sanatoria and for the prevention and treatment of tuberculosis. Dr. W. S. Muir of Truro, N.S., in presenting the report of the nominating committee expressed the regret of that committee at having to accept the resignation of their General Secretary, Dr. F. N. G. Starr who now for so many years had worked so faithfully and so labouriously for the great good of the Canadian Medical Association. The Committee named Montreal as the place of meeting in 1902, throwing out a suggestion that the meeting of 1903 might be held in British Columbia. The following officers were elected for the ensuing year:—

President—F. J. Shepherd, Montreal.

Treasurer—H. B. Small, Ottawa

General-Secretary—Geo. Elliott, 129 John St., Toronto.

Executive Council—Jas. Stewart, T. G. Finley, J. M. Elder, all of the city of Montreal.

A very noticeable feature of the Winnipeg meeting was the generous space given by the local press to the reports of the proceedings. This a good many members thought altogether unnecessary and considered that it would be better if this publicity especially as regards technical papers and case reports be curtailed. The Canadian Medical Association is now in a prosperous condition. It is an Association of great importance to medical practitioners throughout the whole Dominion of Canada. The new officers will have to look well to their laurels if they desire to out-strip previous meetings or if they even desire to equal them. There are said to be nearly 6,000 physicians in Canada and with the Association meeting next year in the commercial centre of the Dominion, there would seem to be no valid reasons why 5 per cent. of the medical population could not be got together in one Convention at Montreal in 1902.

THE PATHOLOGY OF GASTRIC ULCER.*

By H. B. ANDERSON, M.D.; L.R.C.P., M.R. C.S.

Professor of Pathology, Trinity Medical College, Pathologist to the Toronto General & Grace Hospitals,
Physician to St. Michael's Hospital, Children's Hospital, etc.

IN the discussion of the subject assigned to me I shall make no reference to the rarely occurring ulcers resulting from the breaking down of tubercular foci, syphilitic gummata, to malignant ulceration nor to those ulcers arising from the action of irritant poisons as arsenic, acids and other corrosives. Neither shall I refer to ulcers arising during the acute infections but shall confine the discussion to the commonly designated simple, round, peptic or perforating ulcer. From the similarity in all essential points, however, as in etiology, appearance, locality and clinical course, I think that the corresponding ulcers at times occurring in the lower end of the oesophagus and the first part of the duodenum might properly be briefly noted in passing.

Gastric ulcer was not unknown to the ancients, and Celsus mentions the condition and even describes a mode of treatment. The simple, perforating, round or peptic ulcer is now recognized as of comparatively frequent occurrence. Thus Dietrich, in 10103 autopsies, found 126 open and 224 cicatrized ulcers, a proportion of about 3.4 per cent. Brinton Lebert, Jaksch, and later Eichorst, Stewart and Welch, from post mortem records, place the incidence of the condition at about 5 per cent. One authority states that the proportion of cicatrices to open ulcers is as 3 to 1.

The condition is said to occur more frequently in Europe than in America, and if the figures already quoted represent the frequency of occurrence in Europe, I think this statement will accord with the clinical experience of most observers in this country as it certainly does with my experience in connection with autopsies made in Toronto. A reasonable explanation for the less frequent occurrence of gastric ulcer in this country is found in the rarer occurrence of chlorosis and other associated etiological factors in our more scattered population than in the more densely populated older countries. In reference to age there is a pretty general consensus of authority that gastric ulcer is most frequent in the prime of life—from 20 to 40 years of age, while it is rare but by no means unknown at the extremes of life. Ewald thinks that the condition is not so rare in early life as ordinarily supposed and quotes Birsch-Hirschfeld in confirmation of this view as well as citing two cases coming under his own observation. The greater and more rapid reparative power in the young, however, probably causes them to heal with fewer observable signs.

The mortality on the other hand is greater from 40 to 60 years of age, undoubtedly associated with the lesser reparative power at that period of life.

As to sex females are more frequently affected than males—in about the proportion of two to one. In the case of the corresponding ulcer in

*Read before the Ontario Medical Association.

the duodenum these figures are more than reversed, the latter being more frequently found in males, no doubt due to the etiological association of the latter with extensive superficial burns, which occur in men so much more frequently than in women.

Occupation plays a less important role, though gastric ulcer is stated to be more common among cooks owing to the injury done the stomach from the habit of tasting hot foods, among shoemakers, tailors and those engaged at work wherein pressure on or injury to the gastric walls may occur, and also among servant girls and those in other walks of life where chlorosis is particularly common.

Race, climate and habits can only exert a very indirect influence. Trauma has been credited with the power to produce gastric ulcer in some cases and this is partly confirmed by experiment in animals in which the condition has been produced in a few instances. Trauma does not act directly however but by producing haemorrhage into the walls of the stomach which allows the operation of the more important causative factors, to be discussed later. The well-known clinical fact that large superficial burns are frequently followed by duodenal and occasionally by gastric ulcer has been explained as being due to minute emboli plugging some of the small vessels of these organs, either altered red blood corpuscles, blood platelets or other tissue debris from the seat of injury or at times probably septic emboli may be carried from the part. That peptic ulcer has a frequent etiological association with other diseases, particularly chlorosis and various forms of anaemia primary or secondary, menstrual disorders and certain neuroses is a well founded clinical observation. That syphilis, chronic heart disease, sclerosis, amyloid or other degenerations have any influence is not so evident as the age, sex, and other conditions commonly associated with gastric ulcer do not bear out the statement. Fatty degeneration of the vessel walls, thrombosis or embolism of the terminal branches of the gastric vessels, are probably of more consequence. The conical form of the ulcer in itself is somewhat suggestive of the affected area corresponding to the distribution of a minute vessel and there are some experimental data which support the view. Virchow especially believed that emboli in these minute vessels was a frequent cause.

The various factors already mentioned, however, are only of secondary importance and only active in conjunction with the more important ones to be now considered. The possible digestive action of the gastric juice in producing the peptic ulcer was long ago pointed out, especially by Pavy, and was in part substantiated by observation. The localities where the ulcer is found—at the lower end of the oesophagus, in the stomach and first part of the duodenum, situations exposed to the action of the secretion is in itself almost convincing that it exerts an important influence. This is further strengthened by the comparatively common observation of post-mortem digestion in the same situations occurring especially in cases of sudden death from disease or accident, at a time when the gastric juice was active. The more thorough chemical examination of the gastric secretion made possible by the introduction of the use of the stomach tube and test meals by the German school has

furnished more direct proof of the correctness of the supposition. The estimation of the total acidity of the gastric juice after a test meal will show in the large majority of cases an increase in the proportion of H.Cl. present. Taking 40 or 50 per cent. to represent the normal degree of acidity after an Ewald's test breakfast, most cases of gastric ulcer will show an acidity of 70 or upwards. That a hyperchlorhydria is not constantly found in cases of gastric ulcer is no proof that it may not have existed at an earlier period in a given case as the acid may subsequently have been reduced owing to more or less gastritis that often follows on the wake of the ulcer. Time will not permit of the full discussion of the *modus operandi* of the hyperacid secretion in producing the condition. But the case is well put by Ewald in the statement that the other factors already described as having some etiological relationship with gastric ulcer cannot be operative in the presence of a normal gastric juice and normal blood. There must exist a disproportion between the acidity of the gastric juice and the composition of the blood. The old and once widely accepted explanation that normally auto-digestion of the walls of the stomach was prevented by the alkaline reaction of the blood in its walls, owing to later investigations which have shown that the upper layers of the gastric mucosa are acid in reaction, are no longer tenable. The prevention is not to be explained by a simple chemical reaction, but is due to the resisting power inherent in the living cells of the part. The clinical importance of this matter cannot be overestimated with reference to both prophylaxis and active treatment of gastric ulcer. Having once admitted the potency of the hyperacid secretion in the etiology of gastric ulcer the part played by other factors is readily understood. Thus embolism, injuries to the gastric walls, haemorrhages, into the mucosa and the various conditions which reduce the general nutrition of the body or the local nutrition of the organ itself may act in conjunction with the chief factor but not of themselves.

With reference to the bacterial origin of this form of gastric ulcer so little proof of it exists that I shall not take up your time in trying to disprove it.

In dealing with the pathological anatomy of the condition I shall be brief. Gastric ulcers are usually single, though occasionally two and in rare instances many are found, 34 having been noted in one case. The favorite sites are near the pylorus and along the curvatures and posterior wall. They are much less frequent on the anterior wall and at the cardia.

In size they vary from a diameter of less than a five cent piece to that of a quarter, though at times owing to coalescence or to irregular extension much larger areas may be involved. In shape the classical punched-out appearance or conical shape is well known though irregular forms are by no means rare.

The more acute ulcer has thin edges, but the more chronic ones may show much thickening and infiltration of its margins. They extend to any depth in the stomach walls, the submucous, muscular, or peritoneal coats at different times appearing at the bottom.

The terminations in cases of gastric ulcer now remains to be discussed. Cicatrization fortunately occurs in the majority of cases. There is more or less contraction of the cicatrix in healing, however, depending upon

the depth of the gastric walls involved and the extent of the ulcer that has healed and this may give rise to serious subsequent trouble, especially when near the pylorus, where constriction of the orifice and consequent dilatation of the stomach may result. Hour glass deformity of the organ occurs in other cases.

Adhesion of vessels and recurring, sometimes fatal hæmorrhages are well known dangers. If not rapidly fatal a profound degree of anaemia may result from these, thus further reducing the chances of healing.

The tendency to perforation is emphasized in the common term applied to the condition—perforating ulcer. Fortunately in many cases adhesion to surrounding organs, particularly to the pancreas, left lobe of the liver or to the omentum, guards against serious results. This occurs, according to Stewart in 50 per cent. of the cases. In other instances a fistulous communication with the duodenum, colon or the cutaneous surface is established or a local peritonitis walling off by adhesions the inflammatory process, may occur with the formation of a subphrenic abscess. A less happy and not uncommon result is the occurrence of a virulent septic peritonitis. These cases are so intense at times as to give rise to a suspicion of irritant poisoning as in a case that came under my observation a few years ago in which death resulted 18 hours after perforation. There was a medico legal inquiry and the autopsy disclosed a pin point perforation at the base of a small ulcer near the pylorus.

The development of a carcinoma at the base of an old ulcer is of rare occurrence but should be borne in mind. A specimen from a case of Dr. R. Fotheringham's in the collection before you illustrates this termination.

In conclusion I may say that in dealing with the subject no attempt at exhausting the discussion has been made. I have contented myself by trying to place before you some leading features that may assist in the more practical discussion of the medical and surgical aspects of the question.

EMPHYEMA—ITS MEDICAL ASPECTS.*

By R. FERGUSON, M.D., London.

THE treatment of emphyema is essentially surgical, therefore the medical aspect of the disease is limited to a consideration of its pathogenesis and prophylaxis.

An examination of the conditions which obtain in non-purulent (or primary) effusion is indispensable to an understanding of the pathogenesis of emphyema.

The pleura is practically a large lymphatic space, communicating by stomata with a sub-pleural lymphatic plexus. This plexus is intimately interwoven with the arterio-venous capillary plexus. On the costal pleura the lymphatics are found only in the inter-costal spaces, being absent on the surfaces of the ribs (Dybkowski). The lymphatics are less numerous on the visceral pleura, and are irregularly distributed. It is probable that the absorption of serum is effected throughout the whole pleural surface; but the more solid contents are most probably absorbed by the lymphatics in the intercostal spaces, where the gaping lymphatic mouths

* Read before the Ontario Medical Association.

are most numerous. The respiratory movements of the thorax have a distinct influence upon the absorbing functions of the lymphatics. During expiration, the intercostal spaces become narrow and the soft parts that occupy them are relaxed and projected into ridges towards the pleural cavity. The lymphatic spaces are then obliterated and there is no absorption. During respiration the expansion of the chest causes a widening of the intercostal spaces; the walls of the lymphatics separate, the stomata gape open, and absorption is invited. Hence any conditions that interfere with the alternate contraction and expansion of the thorax and lungs, will impair the absorbing power of the pleural lymphatics. The rapidity of absorption is in direct ratio to the frequency of the respiratory movements.

A basement membrane of connective tissue interspersed with a few elastic fibres, paved with a single layer of endothelial cells, favored by a plexus of vessels, nerves and lymphatics, is, briefly stated, the histology of a serous membrane. This membrane, folded upon itself so as to form a fluid sac, encloses a serous cavity. In health the plasma of the blood, in limited quantity, passes through the walls of the capillaries, undergoing certain changes in its transit, moistens the internal surface of the serous sac, making its exit through the minute openings of the lymphatics, and returns again by way of the thoracic duct to the blood. Normally no serum flows into the cavity beyond that which the lymphatics are able to remove. The inflow from the blood equals the outflow by the lymphatic streams. Such is the physiology of the serous sac.

Under irritation, chemical, bacterial or traumatic, the capillary vessels swell and become hyperaemic, the connective tissue cells proliferate, an increased flow of plasma, leucocytes, fibrin, red blood-cells and bacteria swells the stream which pours into the serous sac. The lymphatics are overtaxed, their power of absorption impaired, and the effusion accumulates. Such is the mechanism of pleural effusion.

Spontaneous cure of non-purulent effusion may be effected by the unaided efforts of nature, resulting in absorption of exuded products and the final adhesion of serous surfaces. The tendency to recovery will depend upon the underlying pathogenic and anatomical conditions, being most favorable in acute plastic pleurisy, less in sero-fibrinous pleurisy, still less in chronic serous pleurisy with hyperplastic walls, and worst in purulent pleurisies.

The advent of suppuration within the pleura implies a radical change in the pleuritic process. In non-purulent pleurisy the inflammatory reaction of the pleural serosa is limited to plastic and serous exudation and new tissue formation. When suppuration supervenes, there is in addition a progressive shedding of the new-formed endothelial elements, which with the migrating leucocytes and other elements of the blood, constitute the pus of the exudate. The transformation from a non-purulent to a purulent effusion is due to the continued irritation of pyogenic organisms and their products.

Bacteriologically purulent pleurisies may be divided into 4 classes: (1) those due to pneumococci, (2) those due to streptococci and staphylococci, (3) those due to the bacilli tuberculosis, (4) those caused by saprogenic organisms. In 9 cases, extending over 11 years in my own practice, 3 were diagnosed tubercular, 3 meta-pneumonic, 2 due to

streptococci infection, and one undetermined. Of course such a limited number of cases is of no statistic value, and is of interest to me merely as coming within my own experience. The 3 tubercular cases were all adults, two of the 3 pneumococcic cases were children, and the two streptococcic cases were adults. The statistics of Netter, Rosenbach, Koplik and others, agree approximately in placing the varieties referred to above, in the following order of frequency; streptococcic empyema about 45 per cent, pneumococcic 30 per cent, tubercular and saprogenic $12\frac{1}{2}$ per cent each. Netter observed that in children 53 per cent of the cases were due to pneumococci, and 18 per cent to streptococci, and that in adults these percentages were reversed. Recent observers are inclined to consider a much larger proportion of cases of tubercular origin than was formerly regarded of that class.

The prognosis will vary with the micro-organism present. The pneumococcic is the most benign. It is the only variety of purulent empyema that may possibly yield to treatment by mere aspiration, especially in children. The empyema due to streptococci invariably requires free pleural incision and drainage. Tubercular empyema is usually a mixed infection. The prognosis here will depend upon the general condition of the patient and the character of the mixed infection.

A bacteriological examination furnishes the most positive diagnosis of the variety of organism present. In the case of tubercular empyema however, a bacteriological examination usually gives negative results. The reason why Koch's bacilli are not often found in the effusion, probably is that this organism operates in living tissues, and is therefore too deeply imbedded in the tissues of the pleural membrane to be cast off with the exudate. The inoculation test of guinea-pigs is the only positive evidence as to whether an exudate is tuberculous. When a bacteriological examination cannot be obtained, the gross appearance of the pus will afford an approximate idea of the nature of the exudate. Pneumococcic pus is odorless, has a greenish tinge, is more puruloid than strictly purulent, does not readily separate into clot and serum, but on standing some time, a thin greenish serum appears on the surface. It is a fibrino-purulent exudation. Streptococcic pus is more yellowish than green in color, thicker and more turbid than the preceding, and on standing readily separates into two layers, the upper clear and abundant, the lower scanty and clotted. It is a sero-purulent pus. Tubercular pus has a watery appearance, resembling that of a cold abscess. This appearance however will be disguised, if as usual, it should be a mixed infection of tubercle bacilli and pyogenic micro-organisms. Suprogenic pus is easily recognized by its odor, as well as its color, viz. a dirty brown.

Prophylaxis. The longer an effusion remains in the pleural cavity, however benign in origin, the greater the danger of microbic contamination and consequent conversion of the fluid into pus. Not only the duration, but the quantity of fluid increases liability to purulent infection. The conditions that govern the amount of the effusion have not been determined. The intensity of the original congestion is not the controlling factor, as "latent pleurisy" *e. g.* are often attended with the largest amount of effusion while acute pleurisy is frequently arrested at the onset of the plastic stage and speedily terminated by cohesion of the opposing pleural surfaces. Large effusions point not only to continued

inflammatory action, but to diminished absorbent power on the part of the pleural serosa, as well as dangerous compression of the adjacent lung. When the effusion rises above the angle of the scapula, and is attended with dyspnoea, I would aspirate even for serous effusion as a prophylactic against empyema and the formation of adhesions about the lung in its compressed situation. I am aware of the precautions necessary in aspirating and the dangers which may attend it, but because an operation is not always well done is no reason why it should not be done at all if its employment is indicated. The timely removal of at least a part of the fluid by aspiration (it may not be safe or advisable to remove the whole of it), will relieve the dyspnoea by removing the pressure from the diaphragm and lung, restore the expansion and contraction of the lung, and allow the respiratory movements of the chest to aid the lymphatics in their process of absorption.

I am not an advocate of the use of calomel as an aplastic in the treatment of effusions. I am not sure that calomel prevents or diminishes the formation of fibrin in pleuritic effusion, and even if it does, I do not think such an effect would be desirable. It is by means of fibrinous adhesion of pleuritic surfaces that nature effects a permanent cure. It is only in those cases in which the presence of a microbic agent maintains the effusion of serum and limits the formation of fibrin, that the resources of nature are unable to effect spontaneous absorption of the exuded products and the final adhesion of the opposed serous surfaces. If we imitate nature in her efforts at spontaneous recovery, we should aim at increasing as much as possible the fibrin factor in the exudate.

In Dec. 18, 99, Dr. Chas. H. Lewis of New York, reported a series of experiments which he made with astringent irritants injected into the pleural cavity of animals with a view to increase the fibrinous character of pleuritic effusions. As a result of these experiments, he found that methylene blue, dissolved in freshly aspirated serum and re-injected into the pleural cavity, resulted in the formation of a deposit of fibrin on the pleural surfaces which speedily effects their adhesion and obliteration of the serous cavity. A synopsis of the history of 20 patients treated by him at Columbus Hospital by this method shows absorption and recovery in every case, and without the formation of pus in a single instance, I have had no experience with this treatment but the results attributed to it certainly warrant further trial and investigation. I believe that any line of treatment that tends to increase the fibrinous element in the effusion operates in the right direction.

Venesection in the treatment of pleuritic effusion has happily been relegated to the past, as it is a procedure faulty in principle, and futile, or rather harmful in results. Depletants such as mercurials and salines, are mischievous rather than helpful in their effects, inasmuch as they may deprive the blood of its fibrinous element and thus tend to retard recovery. Internal medications has thus far given but negative results in the treatment of pleural effusion and proven utterly impotent in the case of empyema. As in any other debilitating disease, supporting and tonic treatment is the only line of internal medication that can be of any service. With the advent of pus, surgical means afford the only rational and radical means of permanent relief—an aspect of the subject which does not fall within the scope of this paper.

MEASURES FOR THE PREVENTION OF CONSUMPTION.*

By PROFESSOR BROUARDEL,

Dean of the Faculty of Medicine of Paris, Member of the Institute.

THE mortality from tuberculosis varies according to the country. In some cases it is accountable for a sixth, a fifth, and sometimes a fourth of the total mortality. Havoc such as this makes it compulsory that all nations and governments should strictly inquire into, and adopt, measures to arrest the propagation of a disease which, in these days, is the greatest enemy of the human race. The wonder is that the voice of alarm has been so long in making itself heard, and that for centuries our ancestors have looked impassively on the disasters going on around them. There were several reasons for this apparent indifference. The struggle was considered useless; the disease incurable; it was not known how it spread. Exaggerating the import of some observations, it was agreed that phthisis is hereditary. They were lulled to sleep by this formula, which served as a pillow for idleness and exempted them from investigating the origin of the mischief.

But when on December 5th., 1865, Villemin showed experiments at the Academy of Medicine, which proved the real presence of the contagion, when our illustrious colleague, Professor Robert Koch, had discovered and demonstrated to the medical world the agent of this contagion, everyone felt that a new way was opened to humanity, and every nation wished to profit for the public good, by the recent scientific discoveries. Before the scientists I have just mentioned had actually made known their discoveries, the English people had already begun to struggle. Convinced by observation that tuberculosis thrived in dark and damp dwellings, in 1836—nearly seventy years ago—you passed a law providing for the construction of healthy houses, and since that date your zeal has not abated. The grounds for the prevention of tuberculosis are identical in every country. On this question the entire medical profession of the world is united. The Tuberculosis is avoidable and curable. With regard to legislation, it is only possible to bring a law into force that interferes with our daily life, that disturbs inveterate habits, and that has to be carried out in the bosom of the domestic hearth, when it is called for by public opinion: when all are convinced of its benefits, and everyone recognises the danger of his vicious habits, and is ready personally to reform them and to require his neighbour to do the same.

Gradually in all countries the public are beginning to realise that personal care and cleanliness are necessary to obviate contagion, and are also realising that other idea, to my mind equally important, that a consumptive patient is only dangerous if the necessary precautions are not taken around him, and if he himself does not take them to protect his relatives, friends, and fellow-workman from contagion thousands of contagious germs. To expectorate on the ground is a disgusting and danger-

* Address to the British Congress on Tuberculosis, July, 1901.

ous habit. Once this habit has quite disappeared, tuberculosis will decrease rapidly.

What rôle does this sputum play in the subsequent propagation of the disease? Collected and shut up in a private, or common but antiseptic, spittoon, destroyed by incineration or some other measure, it is dangerous to no one. Thrown into dry and well-lighted surroundings, exposed to the rays of the sun, it will soon lose its dangerous properties. But if it remains in damp and dark surroundings, it will maintain its activity for a long time. Thus it is that tuberculosis claims more victims from gloomy, ill-ventilated, dark dwellings. All nations have recognised this, but England has the double merit of recognising the primary importance of this problem, and of having solved it in a manner peculiarly her own. Recognising that insalubrious dwellings are one of the most potent agents in propagation of tuberculosis, the legislations of the different countries have kept this cause of insalubrity well in view, and have made laws ordering the destruction of unhealthy dwellings.

If tuberculosis germs fall in an ill-lighted, damp houses they maintain their activity for a long time, whether the house is in town or country. In these surroundings population is often very dense. It is no uncommon thing to see one room in Paris occupied by five, six, eight, and sometimes twelve persons. They are continually coming in contact with one another, chances of contagion are increased by this fact alone, and in addition to the limited space has to be added the dirtiness of the occupants, or, as I should say, the impossibility of keeping sufficiently clean. The small tuberculosis foci are created which invade the whole house; the workmen and employes carry the germs of disease into their workshops and offices and soon make a large tuberculosis focus of the town.

The evils of an unhealthy dwelling are not confined to the risk of contagion just referred to. The want of air and light acts on the nutrition of the inmates, children go off, pine away, the strongest men cannot withstand it, every human being living in these places is the destined prey of infectious diseases; and if we only consider phthisis they become predisposing causes of consumption, transforming the strongest man and putting him on a par with the condition of those born of tuberculous parents. In the latter, hereditary is not direct; one is not born tuberculous, but predisposed to tuberculosis. Moreover, unhealthy dwellings are not pleasant to pass the time in, and the workman stays in his home as little as possible, spending the rest of his time in the public-house, and we can add that the public-house is the purveyor of tuberculosis. Alcoholism is, in fact, the most potent factor in propagating tuberculosis. The strongest man, who has once taken to drink, is powerless against it.

Any measures, State or individual, tending to limit the ravages of alcoholism will be our most precious auxiliaries in the crusade against tuberculosis, but the question is too large a one to deal with here.

The dangers surrounding a man in an unhealthy home are the same when for his work, his duties, his pleasure, through illness, or under constraint, he lives all or part of the day in a centre where other people are assembled, where unhealthy conditions and overcrowding exist. If he is well, his companions are dangerous to him; if he is ill, he is danger-

ous to them. Now the conditions of modern life compel a man to live in such centres. As a child there is the school ; as an adult, the barracks ; a workmen, the workshop ; a student, the lecture hall, the libraries, laboratories ; the employè or official, the bureau and the offices. If he moves about he uses vehicles, railway carriages, too often contaminated.

At the hotel where he stops he has frequently been preceded by a sick person, and no precautions have been taken to protect the new arrival from possible contagion. If he is poor and ill he goes into a hospital, where he is surrounded by contamination on every hand. This peril from common life, inseparable from advance in civilisation, is continually growing : it is the ransom, and accounts for the threatening increase in tuberculosis.

Before touching on the question of the cure of tuberculosis I should like to say a few words about measures adopted to prevent tuberculous contagion by food. Since Chauveau showed that it was possible for tuberculous germs in food to produce tubercles in the intestinal *tract*, attention has been turned to precautions for preventing the consumption of *meat* and *milk* from tuberculous animals. As far as meat is concerned, surveillance of the slaughter-houses in large towns achieve this. In Belgium this measure is also made to apply to the country ; but I do not know of any other kingdom where private slaughter houses are inspected, and in them it is that phthisical cows, measly pigs, and diseased animals of any kind are slaughtered, and are able to escape inspection. This injurious food is consumed either as fresh meat, or in the form of pâtés or sausages from which the tuberculous viscera have not been removed. Another danger is the hawking of meat in pieces. It is rife especially in the large towns. Butchers receive daily quarters of meat despatched by provincial butchers. This meat escapes inspection. With no wish to exaggerate the danger of the propagation of tuberculosis by meat, it cannot be overlooked. It is easy, by means of legislation, to protect the population from this method of contamination. Belgium has set us the example. That the milk of cows with tuberculous inflammation of udders is used is very clear.

It is well to add that in large concerns the milk from different sources is mixed, and one cow only need be the victim of tuberculous mammitis in order to contaminate all the milk with which its milk is mixed. To prevent this method of propagation, strict inspection measures should be adopted, such as have been in use for several years in Denmark, Sweden, and Norway, to the great advantage of public health. Until such necessary measures are actually adopted there only remains the simple mode of avoiding risk from milk by boiling it, and this should be widely made known, in spite of a too widespread prejudice, which wrongly holds that boiled milk is less nutritious and indigestible. If a man is the victim of tuberculosis everything possible should be done to cure him, for *he can be cured*. The idea that tuberculosis can be cured dates back to Hippocrates : " Phthisis if treated early enough, gets well," said the Father of Medicine.

At the Morgue, in Paris, where I frequently make post mortems on accidental deaths, I can state that in half the cases, if the person on

whom the post-mortem is made has lived in Paris for about ten years, I find healed tuberculous lesions, either in the form of cretaceous transformation or fibrous cicatrisation. These lesions, moreover, in the majority of cases, are not phthisis in an early stage manifested by small disseminated foci; they are cicatrices of large foci, sometimes of wide completely cicatrised cavities. Phthisis therefore is curable, even in its most advanced stages. As a tuberculous patient *can* be cured, everything possible must be done to bring this about by careful organization. The doctor being himself firmly convinced that his patient can be cured will make the necessary modifications in his way of looking at the disease.

The doctor shall tell the patient and his family at once that he has a serious disease, but that it is curable.

And now as to the methods of treatment. In this address I am only dealing with the disease, as it effects working men and employés.

The remedies to be recommended vary according to the stage to which the disease has got, and also if the patient is single, married, or father of a family.

Three distinct periods may be defined. In the earliest the patient coughs and has a cold, and it is the stage of the disease which interests us most, when intervention is of use.

In what way can we be of use to a patient in the first stage? In Germany there are polyclinics for tuberculous in the large towns, where a doctor, provided with the things necessary, attends to the patients who come to consult him, either throughout their illness, or till the patient can be admitted into a sanatorium. A committee, composed of benevolent men, and women in large numbers, looks after the patient at home, tells his wife what to do, see that his home is kept clean, and looks after necessary prophylactic measures. As far as possible, the misery consequent on the breadwinner being out of work is relieved from a bank, kept up like the sanatoria banks to assist such cases. Mons. Calmette conceived the same idea, but he went farther, and advised that instead of waiting for the workman to come for advice, they should go and meet him by inviting him to come to a dispensary, run on the same lines as the German polyclinics.

As far as I can see, the best way to ferret out disease would be to have one or more agent-workmen, formen-workmen if it were possible. They are the ones to notice when their comrades cough; they could advise them to go to the dispensary. Alive to the dangers of a badly kept workshop or yard, they superintend its being kept clean and in order; they actually carry out anti-tuberculous education. Those who visit the dispensary receive the necessary attention from the doctors, and are told the danger of dissemination by sputum, alcoholism, &c. They are looked after, they get meat gravy—one or two meals, as far as funds will allow. Their families are helped and their home is kept an eye on from the hygienic point of view; as far as possible, the misery by which the poor man is threatened is kept away from him. Among these patients some are found who must be sent to a sanatorium. If the patient is an unmarried man, and if he can be sent to a sanatorium, his chances of recovery are very great; but for a married man to go means that his wife

and family must be provided for during his absence, and his mind relieved of all anxiety on their account.

Relief banks for assisting the families of the inmates are most necessary to sanatoria. And in many cases sanatoria are essential to complete the work begun at the dispensary.

All nations have obeyed the same generous impulses, and the time will come when, instead of the poor tuberculous patient being given up to his sad lot, he will find that if he is only in the first stages of the disease, that by means of dispensaries and sanatoria there is always hope and often realisation of his recovery. If the patient is beyond the first two stages when he asks for admission to the hospital, it must not be overlooked that he may still be cured, provided he can be made see things as they are. He may be isolated, in order that he may not be discouraged by the spectacle of his comrades' sufferings.

I have been asked to consider the question from the international point of view. I do not think that it is possible to deal with consumption in this respect as plague, cholera, and yellow fever have been dealt with in order to prevent their being brought into a country. I do not know how any doctor can state positively that a traveller at the frontier or the port is not consumptive. But it would be possible to take international steps in another way. Railway carriages might be disinfected, as well as steamboats and hotels, and the traveller no longer exposed to germs of contagion. That would be of truly international import. In several countries, particularly in the United States, hotel keepers who receive a consumptive client have to notify it to the municipal authorities, and compulsory disinfection of the room has to be gone through. The Minister of the Interior in Germany has brought in even more stringent measures. Every doctor who attends a case of pulmonary or laryngeal tuberculosis is bound to report it in writing to the police as soon as he has made his diagnosis. After death from tuberculosis the room in which the patient has died has to be disinfected as well as his belongings. Hotel proprietors, "furnished house" keepers, asylums, and other public institutions are compelled to notify at once every case of tuberculous disease which arises in their establishment. Notification, disinfection, salubrity of hotels, carriages, and steamboats, are questions of an international character, which might be advantageously dealt with by representatives of the different nations.

The lesson to be drawn from the efforts that have been made by all nations to carry out a crusade against tuberculosis is that in conversation, in the public prints, and in specially prepared pamphlets, we should make it universally known that tuberculous contamination can be avoided, and that in addition the disease can be cured.—*The Medical Press and Circular*.

THE TOXIC ORIGIN OF NEURASTHENIA AND MELANCHOLIA.*

By M. ALLAN STARR.

FIRST diet: This cannot be laid down in a uniform manner for all patients. The majority of them do not digest milk well, and eggs as a rule do not agree with them, though occasionally raw eggs will be digested when cooked eggs will not. Meat of all kinds seems to agree very well with this type of patient, but meat soups are not well digested, and therefore cream soups are preferable. Fish in all forms and oysters usually agree with such patients, and also certain types of vegetables; but potatoes, turnips, beets and tomatoes are liable to give more trouble than other vegetables. Rice, macaroni, and hominy are usually well borne, but should not be cooked with cheese, and cheese as a rule is not well digested. Patients differ entirely from each other in their capability to assimilate breads and sweets, and it will not do to lay down any rule for the use of these articles; in fact, in these cases various forms of diet should be tried until the articles which disagree are ascertained.

Fluids. Tea almost uniformly disagrees with these patients, making them nervous and increasing their indigestion. In many of the patients coffee acts as a desirable and pleasant stimulant, both in the morning for breakfast and after dinner, and does not in any way interfere with sleep. In others it acts as a poison and should be excluded. It is believed that in all these cases alcohol should be avoided in every form, especially the sour wines and champagne. In about one-half of the cases whiskey can be taken without ill effects, but the stronger wines, like port and sherry, and all liquors are to be avoided. Occasionally a patient can take Rhine wine diluted, or the Australian Vöslauer, without ill effects. Water should be taken very freely, and a good alkaline or lithia water is often of much benefit.

Drugs: The digestion must be aided in these patients by two classes of remedies—one which stimulates the liver to activity, the other which counteracts the evolution of toxic agents in the intestines. First, these patients are given small doses of calomel (one-tenth grain every half-hour till one grain is taken) every ten days, and a dose of podophyllin (one-fourth grain) every ten days alternately with the calomel. It is also well to stimulate the liver by the use daily in the morning of either Carlsbad salt or a salt made by mixing ten grains of salicylate of sodium with one drachm of phosphate of sodium and half a drachm of chloride of sodium. If this mixed salt is put in a large tumbler of sparkling water of any kind, and taken during the act of dressing in the morning, it will usually be beneficial.

The second object—the counteracting of the toxic agent—is attained by one of three different remedies, and it is never possible to determine exactly which of these three in any one case will prove of service. The

* The Medical Record.

first is a combination of five grains of the sulphocarbolate of sodium with one grain of permanganate of potassium, put up in a capsule which is coated with shellac so as to be insoluble in the stomach, and hence dissolve only in the intestine. Such capsules are given after each meal and on retiring. The second remedy that is used is a capsule of salol and castor oil—five grains of salol and ten minims of castor oil. This also is rendered insoluble in the stomach by a coating of shellac. The third remedy is given in the same manner in capsule after eating, and consists of benzoate of sodium two grains, sulphocarbolate of zinc one grain, and betanaphthol one grain. It has been noted that by the administration of these remedies continuously for a considerable period a steady amelioration in the symptoms of intestinal indigestion will ensue, and, what is much more noticeable, an entire cessation in the periodicity of the alterations of the symptoms; the first evidence of relief being a quieter rest during the night, without any early awakening, and a relief from the depression that occurs early in the morning.

Baths: The use of a hot bath on rising, at a temperature of 104° F. for three minutes, followed by cool sponging for one-quarter of a minute, is of importance, as nothing stimulates the general nutrition of the body better than such a measure; but in this type of patient the cold bath in the morning usually produces distress, and is followed by a feeling of exhaustion, cold extremities, and discomfort.

Exercise and rest: In all cases an increased amount of exercise should be insisted upon, yet in many instances any long-continued exercise is most exhausting and is followed by a rapid action of the heart; hence it is far better for these patients to swing clubs briskly or to play a game of tennis for twenty minutes, thus getting into a pleasant perspiration, than it is to take an hour's horseback exercise or to play a game of golf which requires tramping two miles, though both of these measures occasionally can be endured and are beneficial. One very important element in the treatment is regularity in the amount of rest. These patients should be urged to lie down and relax all the muscles, the clothing being properly loosened, for one-half hour after each meal, and after any active exercise rest of the same duration should be enforced. One of the essential elements of successful treatment in these patients is a pleasant occupation for the mind, as their depression leads them to intensify their nervousness by introspection and self-observation. A variety of occupation should be sought, and every means should be employed to keep them interested and diverted. An outdoor life is far better for them than a life indoors, and therefore if an occupation can be found which involves some activity in the open air it is desirable: the study of botany, the study of forestry, the running of a farm, the care of chickens, the occupation of an engineer or surveyor, the study of landscape gardening—all of these are pleasing occupations for men and women, and it is on this principle that travel and change of scene may be urged upon these patients. But whatever means are employed in their treatment, it seems that the essential element in their success is the counteracting of the toxic product within the body and the prevention of its formation.

ECZEMA.

Symptoms.—In eczema about the finger-nails W. Dubreuilh and D. Freche state the matrix or the bed of the nail may be affected, primarily, or by contiguity from eczema on the back of the finger. The first sign is the redness of the supra-ungual tissue, which becomes painful to pressure. Rarely so much serum may exude that the nail is lifted up, and finally falls off. Striations are noted in the nails, with punctiform depressions. The whole nail may be raised from its bed or a depression may appear in the median line. If the eczema is chronic, the nails will be deformed.

Treatment.—W. R. Ingle Dalton says that treatment of eczema must consist in taking into consideration the general underlying conditions. Those patients suffering from chlorosis, or anæmic subjects, should have tonics, such as phosphorus, iron, strychnine, and mineral acids. Above all a dietary should be strictly enforced: Meat, if allowed at all, only once a day. No oatmeal, no strawberries, no sugar, not even in coffee or tea. This dietary is to be adhered to for several weeks. Water, in large quantities, should be drunk every day. Gottlieb favors a milk diet for some time. The alimentary canal should be kept as antiseptic as possible by means of the administration of naphthalin, charcoal, and ipecac. Lately ichthyol, combined with arsenic, has been personally used, in the so-called strumous diathesis, as follows:—

R. Ammon-sulph-ichthyolat., 3 drs.

Acidi arsenosi, 4 grains.

Glycyrrhizæ, q. s., et ft. pil. No. 180.

M. Sig: One or two after each meal.

Those cases where the surfaces are excessively influenced by inflammation (vesicular forms) should be treated by removing all causes of it. Water, for bathing purposes, in all eczemas, should be prohibited, as far as possible, unless rendered alkaline. A good lotion for the bath is bicarbonate of soda, 1 part, to 50 of water. All irritants,—thermic, chemical, or mechanical,—scratching with fingers, the secretions from sweat, the use of soaps, etc., should be attended to first. If there are scales or crusts, an oleaginous application, such as olive-oil, after hot water and lotion of green soap, may be used. If the eczema is caused by parasites, or is of the form called by Unna eczema seborrhœicum, a germicide is demanded, such as kerosene oil, salicylic acid, or sulphur ointment. A 5-per-cent: ointment of chrysarobin and pyrogallol, or ichthyol or tar preparations, in the squamous varieties, if there is not much secretion, ought to be exhibited. Finally, those etiological factors, springing from neurotic conditions,—anæmia, leucocythæmia, constipation, etc.—or whether the cause be local or external, internal or general, should be completely regulated, and appropriate remedies prescribed.

In the treatment of eczema Gaucher says constitutional treatment will be necessary in both the acute and chronic forms. Lithæmic,

nephritic, and dyspeptic individuals should take especial care of their skin, and they should observe a strict diet, without ferments, extractives, (fish, game, cheese, or bouillon), acids or alcohol in any form. They should take milk, eggs, green vegetables, little meat,—boiled or roasted,—and fruit. Benzonaphthol can be given as an antiseptic, and laxatives should frequently be employed. Constitutional treatment of eczema is with the alkalis with feeble purgative properties, cod-liver-oil, iodides, arsenic, etc. The local treatment consists of water, with perhaps a little boric acid or picric acid in acute cases. A dusting-powder is often beneficial. When the eczema becomes chronic, alkaline baths, tar, lead or tannin ointment, ammoniated mercury, salicylic acid, nitrate of silver, etc., may be used. For chronic eczema of the scalp, the hair must first be removed, then boric or tar ointment applied under a rubber cap. When eczema occurs in the nostrils, behind the ears, etc., boric or calomel ointment is to be used, and, for eczema of the lips, wet compresses followed by oxide of zinc. Tar, mercury, and salicylic acid will prove useful in old chronic cases.

According to S. C. Martin, food adapted to the capacity of the digestive organs, and the demands of the system is of paramount importance in the treatment of eczema. In cases of constipation a tablet composed of aloin, $\frac{1}{4}$ grain; strychnine sulphate $\frac{1}{60}$ grain; extract of cascara sagrada, 2 grains; extract of belladonna, $\frac{1}{8}$ grain, given once or twice daily, will usually, when used in diminishing numbers, enable the bowels to regain their normal tone.

Alkaline diuretics are always included. The acetate of potash combined with sweet spirit of nitre has long been a favorite adjunct to the treatment of eczema, but effervescing lithium and potassium carbonates are preferred. This preparation is preferable to any other alkali.

In plethoric cases, attended by constipation, instead of using the tablets already mentioned, saline laxatives are preferred. Epsom salts and cream of tartar answer a very good purpose. After the acute stage is past one should add to each dose of the saline solution about 4 or 5 drops of Fowler's solution of arsenic and give it after meals three times a day.

In non-plethoric cases the above-mentioned tablets are given to relieve constipation, and a tablet composed of arsenic, $\frac{1}{50}$ grain; strychnine, $\frac{1}{50}$ grain, and iron by hydrogen, 2 grains, is given three times a day, after meals.

In the acute stage, with excessive heat and inflammatory action, sedative lotions or soothing astringent ointments are indicated. A useful ointment contains the following ingredients: Zinc oxide, $1\frac{1}{2}$ drachms; carbolic acid, 5 drops; salicylic acid, 5 grains; vaselin, 1 ounce. In chronic cases, with infiltrated and thickened skin, tar ointments or scrubbing with green soap and warm water, and even scarification of the lesion may be indicated.

Malcolm Morris says that there are two special forms of eczema which occur at the change of life,—and the commonest, that which comes most before practitioners, is acute eczema of the head and face. There is usually considerable flushing, sweating or other nervous phenomena,

headaches, and disturbances of the digestive tract: dyspepsia and constipation. A spare woman at that time of life suddenly begins to flush in the face, perhaps after taking a meal; later the disorder becomes a little more acute; she gets an acute eczema of the scalp, and it spreads down all over her face. For that condition there is no drug or combination of drugs which is of such service to relieve the symptoms, not only the eczema, but all the symptoms mentioned, as ichthyol. It can be given in tabloids covered with keratin, which does not dissolve until it gets into the intestine. The doses should be $2\frac{1}{2}$ grains, to begin with, after each meal. At the end of two or three days it should be increased to 5 grains, then to $7\frac{1}{2}$ grains, and then to 10 grains. If the patient tastes it much, the dose should be cut down a little.

With regard to local treatment, this form of eczema which occurs at the change of life requires rather more active treatment than is needed at any other time. Such cases usually bear fairly strong applications of sulphur and resorcin.

The other form at change of life is the very acute eczema which occurs about the vulva and anus.

R. Ledermann considers arsenic useful in chronic eczema. It is best given by the mouth in doses of $1/40$ grain of *acidi arsenosi*. Iodothylin and thyroid-gland tabloids are extremely valuable in some of the *eczemata*. *Oöphorin* is useful in climateric eczema. The internal treatment of acute eczema is very unsatisfactory. Locally, the best results are usually obtained by the free application of dusting-powders, during the erythematous and early papular stages. These are zinc, bismuth boro-tannate of aluminium, and dermatol. For itching, a lotion of thymol (1 in 400), *acidi carbolici* (1 in 50), and menthol spirit (1 in 50 to 1 in 100) may be used under the powder, care, however, being taken not to apply it to the face or scrotum. In the papulo-vesicular stages ordinary earth-clay, with from 1 to 2 per cent. of acetic acid, 1 per cent. of resorcin, or 1 per cent. of thymol, is one of the best applications. Lassar's paste, tumenol paste, and thiol or ichthyol paste are also valuable. When the crusts form *acidi salicylici*, in a vehicle of olive-oil, is useful, and an especially good formula is: *Zinci oxidi*, 1 part; *bismuthi subnitrat*, 1 part; *unguenti lenient.*, 4 parts; *unguenti simplicis*, 4 parts. The squamous forms, with their almost absent peeling processes, are to be treated by the tar preparations. In chronic eczema the internal treatment resolves itself into that of the diathesis, and the exhibition of arsenic or ergotin. The tar preparations are also to be used in chronic eczema.

H. Sagebiel has used naphthalan in cases of eczema. Of 5 patients suffering from chronic eczema, excellent results were obtained in 4, and distinctly bad results in 1. In 35 other cases with acute eczema, the results were satisfactory in 32 and unfavorable in 3. Naphthalan has the consistency of a salve, and is applied directly without previous preparation of the surface, such as the removal of crusts, etc. A bandage is then applied and changed once in twenty-four hours, when the applications of the drug are renewed. In all the favorable cases desquamation occurred quickly, and without reaction, and a complete cure was obtained in an interval of from two days to three weeks.

In the treatment of peri-ungual eczema W. Dubreuilh and D. Freche use boric-acid or salicylic-acid washes and a dusting-powder. Resorcin may give good results in chronic inflammation.

In eczema Winternitz successfully employed red solar light, the diseased areas of skin being first covered over with a thin silk material of an intensely red color. Exposure to strong sunlight was then made for variable lengths of time in one case this amounting to as much as four hours. In all the cases thus treated a considerable improvement and in some a complete cure took place.—*Sajous' Monthly Cyclopaedia*.

THE CURE OF CORNS ON THE SOLE OF THE FOOT.

If the patient will give the toes free play by adopting boots and socks having a straight inside line, avoid the conventional eversion of the foot, and acquire the habit of pressing the toes against the ground in every step, the callosities will disappear. They are due to defective function of the toes. Removal may, of course, be hastened by the use of solvents, such as a mixture of salicylic acid and collodion.

Another correspondent writes that he has found that corns on the sole of the foot rarely resist the following treatment: A piece of salicylic and creasote plaster, muslin, as suggested by Unna, is cut rather larger than the corn, and applied to it. This is removed each or every alternate day. As much of the corn as is then removable is ground off with pumice stone, and another piece of the plaster muslin applied, and so on, until the part is normal. He uses the muslin plaster containing acid salicylic twenty per cent., creasote forty per cent., and has found that it is more comfortable to wear if it is "backed" with one or two thicknesses of ordinary plaster. Of course a properly fitting boot with a sufficiently thick sole, is a *sine qua non*.

Still another writer suggests that the best relief he found was to take a piece of moderately thick leather, circular, about two inches in diameter, and cut a small hole—size of the corn—in the middle. There is no need of fastening the leather to the foot; he found it retained its position on fixing it in place after putting on his sock.

Finally, the following treatment is suggested: Soak a piece of lint or cotton-wool the size of the corn with acetic acid (forming in fact a compress), to be well covered with a piece of gutta-percha sheeting; bandage lightly. Do this for three consecutive nights.—*Brit. Med. Journal*.

GOING TO BED HUNGRY.—This is a relic of the misconception of the laws of hygiene following physiological investigations in the early part of the last century. Man is the only animal who was ever foolish enough to voluntarily go to sleep while hungry. Judging from the advice now given by thinking physicians, the practice will soon become a mere tradition.—*Diet and Hygienic Gazette*.

CHLOROSIS.

SAYS *The London Hospital* : The point of view from which many of the phenomena of chlorosis are regarded has altered considerably during recent years, so that now again, as in that long ago when by giving the disorder such names as *febris amatoria*, *icterus amantium*, and so forth, physicians expressed their belief in its sexual origin, the tendency is to regard the disorder as associated in some way with the function of reproduction, perhaps, in fact, as but an exaggeration of certain changes which normally occur in woman preparatory to her great function of child-bearing. Time was when attention was principally fixed upon the changes in this blood in disease. Poverty of blood was looked upon as the central fact to be regarded. Anemia and debility being considered as almost of necessity coincident, and chlorosis being evidently a condition of anemia, every effort was made to "build up" new blood.

Perhaps the microscope was responsible. At any rate, we can have no doubt that by depending too much upon the counting of blood corpuscles both in diagnosis and in estimating progress physicians have for many years past hovered on the verge of error.

Of late, however, with more accurate clinical methods at our disposal, doubt has been thrown upon much that was not so long ago considered certain. Speaking at a recent meeting of the British Balneological and Climatological Association Professor Clifford Allbutt pointed out that some of the tests on which we have relied can no longer be trusted. "For many years," he says, "we, or our clinical clerks for us, have been industriously engaged in making blood counts. Now, of the value of blood counts in the more eccentric deviations of the blood from the standard of health, I am at present not called upon to speak; we leave such perversions out of account. But even if we regard for the moment the red corpuscles only, as in chlorosis, for instance, the value of blood counts, if not depreciated beyond all usefulness, proves to be far less directly interpretive than we had supposed." He goes on to show that a drop of blood taken in the usual way is not by any means representative of the mass of the blood in the body, varying as it does according to the conditions of the cutaneous circulation, according to the exercise taken or of mental work done, according to the time in relation to sleep, and in other ways.

Not only do we thus have it that the blood counts, on which so much has been made to hinge, are useless or misleading, but by new methods of research, new factors are being introduced into the problem. More especially do we now have to consider the total quantity of blood present in the body. We are now told that the impoverished condition of the blood in chlorosis, which to some observers has appeared to be the main departure from health and sufficient to account for all the symptoms of the disease, is after all only apparent, that there are corpuscles enough and hemoglobin enough, only that they are scattered through far too large a quantity of plasma—plasma which, useful as it may be for purposes of

nutrition, is obviously of but small service in carrying oxygen to the tissues and in thus maintaining the functional activity of the body.

Taking this more recent view of chlorosis it would appear that the dyspnea, the palpitation, and the not infrequent dilatation of the heart in chlorosis are to be explained, not by lack of blood, but by the fact that in this disease the bulk of the blood is increased without proportionate increase in the corpuscular element. Thus the therapeutical problem is not so much how to multiply the red corpuscles as how to diminish the plasma in which they are extended. "Pull the blood together and there will be corpuscles enough, the heart will not have to deliver excessive parcels of blood to the lungs and elsewhere, and its dilatation will recede in so far as it may have been due, not to malnutrition, but to need of greater temporary capacity." On this hypothesis many of the symptoms of chlorosis appear easy of explanation, and the somewhat mixed ideas which have long prevailed as to the therapeutics seem to receive some degree of clarification. We cannot admit, however, that we are any nearer the prime cause and origin of the disease. Probably the old physicians were right, and certainly a number of modern physicians are inclined to agree with them in thinking that sexuality has much to do with the matter, that this excessively rich blood plasma is in a sense a preparation for maternity, and that many of the symptoms which accompany the condition are but the organic expression of that deeply-rooted desire for maternity which, however little it may be shown, or even felt, so far as the ordinary consciousness is concerned, is the motive power in the life of normal women. This raises at once the ticklish question of marriage as a cure for chlorosis, about which we will only say that "it is a wasteful thing to use a steam hammer to crack nuts. Still, the nuts do generally crack."—*The Dietetic and Hygienic Gazette*.

THE USE OF HEAT AS A MEANS OF DIAGNOSING THE PRESENCE OF PUS.

According to Dr. K. Lewin, of Berlin, the application of heat, while relieving pain resulting from simple acute inflammation, is found to have exactly the contrary effect when suppuration is present. Dr. Lewin has applied this observation to the solution of the question of the presence of pus in cases of appendicitis. In ten persons attacked by appendicitis where Dr. Lewin applied hot compresses for one or two hours, eight were greatly relieved, while two found their pains increased. In all the former group a spontaneous cure resulted in the course of two or three weeks, while in the others, after persistent trial of medical treatment without result, operative interference became necessary, and pus was found in both instances. The author considers that in applying the test it is important to use no other calmative means, and to keep from the patient its meaning, that the effect of the application may not be modified by any dread of an operation.—*British Medical Journal*, Jan. 26, 1901.

THE USES OF PHENOL IN DERMATOLOGY.

BY JAY F. SCHAMBERG, A.B., M.D.,

Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine.

PHENOL, phenic acid, carbolic acid, or phenylic alcohol, as it is variously designated, has been used locally and internally for many years in the treatment of diseases of the skin. Its value as a topical medicament has so far eclipsed its reputation as a constitutional remedy that many physicians are doubtless unaware that it has any internal uses in dermatology. Nevertheless, many careful observers have testified to its efficacy when administered in appropriate cases. In the treatment of *psoriasis* it appears to have earned a more permanent place in dermatological therapeutics than in any other affection. Kaposi says of it: "In carbolic acid we possess an excellent tar preparation which, administered in the form of pills, is well borne and acts analogously with arsenic. One prescribes

R̄ Acidi carbolici gr. cl.
Ft. pil. No. 100. S.: 5 to 10 pills daily.

One can continue the medicament for weeks even in larger dosage, although I hold this unnecessary. With the exception of mild irritation of the kidneys I have never seen the slightest harm from its use." McCall Anderson says carbolic acid is especially useful in chronic *psoriasis* where the patches are not much infiltrated. It may be given in three-to ten-grain doses daily in the following formula:

R̄ Acidi carbolici ̄ ij;
Glycerini f ̄ j;
Aquæ destillat. f ̄ v.

S.: One drachm in a large wineglass of water before meals.

Carbolic acid has also been advised in the treatment of *pruritus*. I have recently had the opportunity of studying its effects in several cases of generalized itching which had lasted over a period of months. In all of these cases there was improvement, amounting in one or two patients to a practical cure. The drug was given in one-to four-grain doses in sherry wine.

R̄ Acidi carbolici ℥ xxiv to lxxij;
Glycerini f ̄ j to f ̄ ij;
Vini Xerici q. s. ad f ̄ ij.

S.: One drachm in water after meals.

In this form phenol is not at all unpalatable and agrees well with the stomach. In one patient the appetite was distinctly improved by its use. No renal irritation was observed.

When carbolic acid is given internally it is said to circulate in the blood as an alkaline carbolate, and is eliminated in the urine as a sulphocarbolate. In what manner it acts in *pruritus* is difficult to state with any degree of positiveness. The drug acts as an anti-fermentative in the stomach and bowel, and also acts as a valuable intestinal antiseptic.

Cases of pruritus due to intestinal autointoxication might readily be improved by the use of phenol. It is known that phenol is eliminated through the sweat glands, probably as carbolates. The contact of the drug with the skin may exert in this manner a certain antipruritic effect. I am told by a friend that carbolic acid internally is an excellent deodorant in malodorous sweating.

The drug appears to be quite safe in reasonable doses. Bell reports its use in the treatment of the plague; in a case ending in recovery he gave twelve grains every three hours until 250 grains had been administered.

The *local uses* of phenol, however, have given the drug its chief reputation. According to the strength in which it is employed, it acts as a sedative, a stimulant, or an escharotic. It is, moreover, a valuable antiseptic, and above all an antipruritic. Its action in benumbing the peripheral nerves of the skin makes it one of the most valuable of all applications for the relief of itching. It has been styled the "morphine of the skin." Carbolic acid has therefore been extensively employed in all dermatoses accompanied by pruritic manifestations. It has found an eminent field of usefulness in *eczema*, in which disease there is as a rule such distressing itching. In acute erythematous or papular eczema, the following lotion will be found most grateful:

R	Acidi carbolic	gr. xxx;
	Acidi borici	ʒ j;
	Glycerini	f ʒ j;
	Zinci oxidi	ʒ ij;
	Aquæ	q. s. ad f ʒ vj.

In more chronic cases it may be employed in greater strength. Hebra advises in chronic scaly eczema of the face:

R	Acidi carbolic	ʒ ij;
	Glycerini	
	Ætheris	ää ʒ j;
	Spts. vini rect	f ʒ vj.

This preparation must, however, be used with care.

In subacute vesicular eczema and in eczema rubrum I have obtained most excellent results from a phenol-calomel paste of the following composition:

R	Acidi carbolic	gr. x;
	Hydrarg. chlor. mit.	gr. xx;
	Pulv. amyli	
	Pulv. zinci oxidi	ää ʒ ij;
	Petrolati	ʒ ss.

This ointment is a safe and generally useful application in all except the very acute eczemas. In other cases of subacute eczema carbolic acid may be incorporated in a modified diachylon ointment:

R	Acidi carbolic	gr. x;
	Plumbi oxidi	(c. p.), ʒ j;
	Petrolati	
	Lanolini	ää ʒ ss

A cooling and antipruritic ointment of great efficacy, useful in erythematous, papular, and squamous eczema, and in lichen planus, pruritis, etc., is made up as follows :

℞ Menthol	gr. v-x ;
Acidi carbolicī	gr. x-xx ;
Ung. aquæ rosæ	ʒ j.

This produces primarily a mild burning sensation followed by a distinctly refrigerating effect. When other ointments fail to relieve itching, this often acts in the most gratifying manner.

In chronic papular eczemas accompanied by infiltration, and in lichen planus, a stimulating ointment suggested by Unna may be employed :

℞ Hydrarg. chlor. corrosiv	gr. ij ;
Acidi carbolicī	gr. xx ;
Ung. zinci oxidī	ʒ j.

In *pruritis* and *urticaria*, carbolic acid in the form of a lotion is a remedy always to be relied upon to give at least a considerable measure of relief. The addition of alcohol to the lotion increases its antipruritic efficiency. Sopped on the skin as often as is required, it constitutes a cleanly and agreeable mode of treatment.

℞ Acidi carbolicī	ʒ j-ʒ ij ;
Glycerini	f ʒ j ;
Spts. vini rect	
Aquæ	āā f ʒ iij.

In obstinate cases, menthol, camphor, chloral, or tincture of mineral tar (liq. carbonis detergens) may be added.

Alopecia Areata.—There is at present considerable divergence of opinion concerning the origin and character of alopecia areata. The French school strongly champions the microbic theory which holds microorganisms as the sole cause of the disease. Certain other dermatologists regard the affection as purely trophoneurotic in nature. The truth may perhaps be found in an intermediate position. At any rate, whether germs or nerve innervation be invoked as a cause, we possess in carbolic acid a remedy which fulfils two important therapeutic indications, stimulation and sterilization. Duhring advises the following lotion :

℞ Acidi carbolicī	f ʒ j ;
Alcoholis	f ʒ j-f ʒ vj ;
Olei ricini	f ʒ ij ;
Olei amygd. amar	gtt. x.

I have for some time been employing in alopecia a liquid consisting of:

℞ Acidi carbolicī	
Alcoholis	āā f ʒ ss.

This is painted upon the patches with a cotton swab once or twice a week. In the interim milder stimulating and antiseptic agents are used. The application produces a burning sensation, and leaves, upon drying, a whitened skin which later becomes considerably reddened. In three or four days a mild scaling is seen. This application does not act as an escharotic, but as an intense stimulant. The alcoholic character of the solution enables it to penetrate into the mouths of the hair follicles and thoroughly sterilize them. The results of this method of treatment are extremely gratifying.

Crocker says of the application of pure carbolic acid in alopecia areata: "I can bear by the statement that carbolic acid applied to a match stick with cotton acts only as a superficial escharotic. The skin is immediately whitened and the epidermis peels off in a few days, but no sore or deep destruction ensues."

Parasitic Diseases.—The phenol-alcohol solution just referred to is of considerable value also in the treatment of ringworm of the scalp. Carbolic acid in lotion or ointment form is useful in the treatment of many parasitic diseases, such as impetigo contagiosa, ringworm of the skin, beard, or scalp, tinea favosa, tinea versicolor, and in the various animal parasitic affections.

Furuncles.—Boils may at times be aborted by cauterizing the center of each lesion with pure carbolic acid upon a probe or toothpick.

Carbuncles.—Manley and others have claimed excellent results from the early injection of pure carbolic acid into carbuncles. In the early stage, before extensive infiltration has occurred, the injection of about three minims will suffice; later considerably more acid must be used, it being injected into each of the necrotic foci of the carbuncular infiltration. When used early, it is said that "the relief is so prompt and the destruction of infective spread so decisive, that the suffering patient again enjoys his unbroken sleep and recovers his appetite."

In conclusion it may be well to call attention to certain dangers which may attend the too free use of carbolic acid upon the skin. In ointment form the drug should not be applied over too extensive an area of the body surface for fear of toxic absorption. The danger is increased if the skin be denuded of epidermis. Lotions applied to an abraded integument are also not entirely devoid of risk. Again, a number of cases of gangrene have been reported from the application of carbolic acid to the skin in the form of continuous moist dressings. Such dressings should therefore be avoided.—*Therapeutic Gazette.*

ON CERTAIN PRACTICAL APPLICATIONS OF EXTRACT OF SUPRARENAL MEDULLA.

As a result of numerous experiments in the physiological laboratory of the University of Edinburgh, the author suggests that a trial should be made of this extract in all cases in which it is desired to strengthen or induce uterine contraction, as it has a far greater power in causing contraction of the muscular tissue of the uterus, whether pregnant or non-pregnant, than any other drug, and this whether it be applied directly or introduced through the circulation. It may be given by the mouth, but in post partum cases it might be injected directly into the uterine cavity. The solution suggested is thirty grains of dry medullary substance to a pint of water, sterilized by boiling and injected fairly hot; the value may be increased by the addition of a drachm of calcium chloride. In another class of cases it may be of great value, viz., in sudden cardiac failure, whether the result of shock, hæmorrhage, or an overdose of anæsthetics.—Professor E. H. Schäfer, F. R. S. (*British Medical Journal*, April, 1901).

UROTROPIN AS A URINARY ANTISEPTIC.

THE London *Lancet* of January 19, 1901, contains an article by CAMMIDGE, in which he details the results of a series of experiments with this drug. The results of his chemical experiments are summarized as follows: (1) Urotropin may alone, by prolonged heating, be made to yield formaldehyde, but this decomposition does not take place at body temperature. (2) An alkaline solution of urotropin may be similarly decomposed, but the body temperature is not sufficient to cause the change. (3) Dilute acids quickly, decompose urotropin on boiling with the evolution of free formaldehyde, and this change occurs to a less degree at 37° C. (4) Acid salts—*e.g.*, of the urine—liberate formaldehyde from urotropin on boiling, but not at 37° C. The acid urine of a person taking thirty grains of urotropin a day does not contain free formaldehyde.

Although the exact chemical nature of the antiseptic body occurring in the urine has not been definitely settled, it seems clear, both from the bacteriological and chemical evidence, that it is not free formaldehyde. The readiness with which urotropin is decomposed by acids, and to a less extent by acid salts, together with the more marked inhibitory power over the growth of microorganism shown by the acid urine over simple urotropin solution or an alkaline urine, would suggest that it is not the urotropin itself which is the most important factor in producing this kolyseptic action. It seems probable that acid urines produce in the kidney a partial decomposition of the urotropin by which some body is liberated, or a fresh compound formed which has very marked inhibitory powers over the growth of bacteria. If this hypothesis is correct an important point in securing the full effect of urotropin in bacterial infections of the urine would be that the urine should be acid in reaction as it leaves the kidney. That this is so is borne out by clinical experience. One condition in which it is preeminently useful is typhoid cystitis. Here the urine is generally acid, and the administration of urotropin quickly causes the bacilli to disappear. It has also been found useful in cystitis accompanying enlarged prostate and stricture of the urethra. Here, too, the urine is usually acid as it leaves the kidney, and only becomes alkaline from the ammoniacal decomposition which takes place in the bladder. In suppurative pyelitis and in cystitis caused by calculus in the kidney or bladder a similar condition of the urine obtains, and good effects follow treatment by urotropin. The administration of urotropin as a means of insuring antiseptic urine and an aseptic condition of the genito-urinary tract in operations on those regions has been highly recommended by Casper. Other conditions, such as bacteriuria and the nocturnal enuresis of children, the latter being said to be frequently caused by infection with the bacillus coli communis, would probably be found to be benefited by treatment with urotropin, since the urine is acid in reaction. Experience has shown that gonorrhea and tuberculous cystitis are not appreciably benefited, but the condition of the infection in these

two diseases is different to those previously mentioned—the microorganisms are not in the urine but lie chiefly in the tissues.

As a urinary antiseptic urotropin appears to be much superior to those usually employed (*e.g.*, salol, ammonium benzoate, boric acid, guaiacol, naphthalin, and resorcin), especially when the acidity of the urine is insured by suitable means. It is not, however, only as a curative agent in the ordinary forms of urinary infection that the advantages of the drug are so apparent, but in typhoid fever it may be employed from the third or fourth week onward to the advantage of both the patient and the community at large. Recent researches have shown that typhoid bacilli occur much more frequently in the urine than has been generally supposed, and that they may persist for very long periods after convalescence (five years). By the systematic use of urotropin in all cases the very real danger from this source, which is so frequently overlooked, may be entirely avoided.—*Therapeutic Gazette*.

THE TREATMENT OF SCIATICA, ARTHRITIS DEFORMANS, AND SCLERODERMA BY SUPERHEATED DRY AIR.*

In this article Neumann describes the results of the Tallerman method of applying superheated dry air in the treatment of these diseases. After considering the methods of application and the degree of temperature which is obtained, he gives his results derived from the study of a long series of cases treated by this method. He believes, unlike many of the English investigators, that in most cases improvement is slow and gradual, while especially insisting upon the absence of ill-effects on the local seat of mischief or on the whole system. He states, in particular, that he has never been able to discover that it causes any wasting or has a lowering effect on the general strength; on the contrary, in precisely the most successful and, at the same time, the severest cases the general health and appearance have notably improved through the relief from pain and the powerful stimulation of the circulation. In Germany the Tallerman apparatus has been installed for the public use at various curative resorts, and at one of these, Landesbad, Neumann has had ample opportunity of employing the treatment and studying the results. The indications for the treatment are chiefly rheumatic neuritis, chorea, gout, chronic rheumatism, rheumatic arthritis, stiff and swollen joints, sprains and ruptures of joints, fractures and inflammation, flat-foot, etc. In the course of the past year this treatment has been applied to seventy cases of sciatica and lumbago, thirty-five of arthritis deformans, as well as in numerous cases of other conditions mentioned. With the exception of three cases of sciatica and lumbago, one of ankylosis of the knee joint, two of arthritis deformans, two apparently of old fractures of the neck of the femur, and one case of inflamed flat-foot, and one of scleroderma, all the other cases were either substantially improved or completely cured. At the conclusion of his article, Neumann gives notes of a few of the cases so treated, including ten of sciatica, nine of arthritis deformans, one of scleroderma, and one of myxedema.

* Neumann. *Lancet*; *Maryland Medical Journal*.

ELIMINATION OF PERITONEAL INFECTION AND PREVENTION OF SURGICAL PERITONITIS *

FOR the past six years the writer has been interested in the functions and anatomy of the peritoneum. In 1896 he took radical ground against abdominal drainage in many cases in which it was then used. He strongly favored thorough irrigations of the abdominal cavity at the completion of an abdominal operation to remove as far as possible all debris, blood and infectious matter, and then leaving a considerable quantity of salt solution in the peritoneal cavity to disseminate and promote rapid absorption.

Some epoch-making work on the anatomy, physiology and pathology of the peritoneum is reviewed. He next considers in greater detail a most interesting research on the action of streptococci upon the peritoneum, which he uses in sustaining his position concerning the natural peritoneal method of drainage.

He quotes Walgreen at length to show that although there is at first an increase in leucocytes, after six to eight hours they markedly decrease, giving fuller sway to the infection of the peritoneum. Consequently, by distributing the same amount of infection over a large area of peritoneum, the early increase of leucocytes can do greater damage to the infection.

In 1896 the writer advocated leaving a little salt solution in the peritoneal cavity at the completion of the abdominal operation, and then lifting the foot of the patient's bed for twenty-four hours with a view of hastening absorption. Now, five years later, he concludes that the postural position is unnecessary, as absorption is almost as rapid in the prone position, and the churning of the intestines in the saline fluid facilitates the distribution of the debris and enables the intestines and omentum to float out into their normal position.

Without qualification he says that the routine use of normal salt solution in the peritoneal cavity is not only free from danger, but is of the greatest value as a life-saving measure and as a prophylactic against general or local peritonitis.

He and his assistant have carried out a series of experiments to confirm Muscatello's conclusions concerning the transportation of small granules from the peritoneal cavity. For the purpose carmine, india ink, and ultramarine granules were used, and within a very few hours the foreign bodies were found generally distributed throughout the organs of the body in the following order: In the lungs, then in the liver, spleen and gastro-intestinal tract, then in the kidneys, and finally in the bone-marrow, the lymph glands, and dependent parts of the body.

The investigations were conducted with a view of discovering the ultimate distribution of these foreign bodies, for it was believed that the fate of micro-organisms under similar conditions must be analogous.

* Clarke. *Journal American Medical Association*; *Maryland Medical Journal*.

The argument in favor of salt solution is based upon the following proposition: Given a minimum amount of peritoneal infection, it is infinitely better to distribute it once before the micro-organisms undergo manifold sporulation than to hope for its elimination after it has gained virulent headway through stagnation or clinging to operation fields within the abdominal cavity. By at once distributing a minimum amount of the infectious material generally throughout the body the micro-organisms are promptly placed in the most favorable situations for their destruction and elimination.

Whether the alexin or the phagocytic theory concerning the destruction of micro-organisms be accepted is immaterial, for in either case it is better that the micro-organisms be quickly deposited where the antagonistic factors are dominant than to be left behind in the peritoneal cavity, into which the leucocytes and serum more slowly flow.

It was found from investigation that the normal lungs and also the kidneys may withstand and eliminate comparatively large quantities of infectious matter when carried quickly from the peritoneal cavity to these organs. It is the continued action of infectious matter, carried hour after hour from a generating focus in the peritoneal cavity which works destructively on these organs, and secondarily on the general system. Besides the aforementioned benefits derived from intraperitoneal salt solution, all of the other advantages given by the salt solution, introduced elsewhere; are found here also, as, for instance, in hemorrhage, shock and the urinary excretion. One objection may be offered to the saline infusion, but in no case was it found to be serious. Within the first twenty-four to thirty-six hours after the operation patients not infrequently complained of distress from the diaphragm similar to a pleuritic pain.

"The chief tenet in the argument is based upon the enormous and rapid absorbing function of the peritoneum, which absolutely precludes the possibility of limiting to any surgical field in the peritoneal cavity septic matter or micro-organisms. Accepting this hypothesis as proved, I link my next basal theory to it as follows: Given an infection at the time of operation, it is infinitely better to promote its rapid elimination from the peritoneal cavity than to retard it or attempt to definitely localize or remove it by surgical drainage."

CONCLUSIONS.

"1. The peritoneum has an enormous absorbing function, being capable of taking up 3 to 8 per cent. of the entire body weight in an hour.

"2. Minute solid particles are carried in an incredibly short time from the peritoneal cavity through the diaphragm into the mediastinal lymph vessels and glands, and thence into the blood circulation, by which they are quickly distributed to the abdominal organs and to the bone-marrow.

"3. The granular bodies are at first largely transported as free bodies, swept along by the lymph currents, but later the leucocytes act as carriers.

"4. There is normally a force in the peritoneal cavity which carries fluids and foreign particles toward the diaphragm regardless of posture, although gravity may greatly favor or retard the current.

"5. After the introduction of micro-organisms into the peritoneal cavity there is great decrease in their number within the first hour both through their intraperitoneal destruction and through their rapid absorption into the general system where they are dealt with. There is therefore no possibility of limiting free infectious matter to any part of the peritoneal cavity by mechanical means.

"6. Vigorous streptococci which remain behind develop in six hours a repellent or destructive quality for leucocytes, and the lethal combat is therefore inaugurated and well under way before drainage as employed can possibly exercise any beneficial action. In many cases, therefore, in which surgical drainage is employed the patient recovers in spite of, and not because of it.

"7. A moderate amount of virulent organisms carried by the blood to the lungs, liver and spleen, kidneys, gastro-intestinal tract and bone-marrow may be destroyed or eliminated without the least harm to the patient, whereas if the same amount of infectious matter is detained about a surgical field in the abdominal cavity, or stagnates in a dependent pocket, they may generate myriads of others, and thus overwhelm the patient.

"8. In many cases, therefore, drainage as ordinarily employed is superfluous, or even dangerous, and the rational method is to remove all possible debris and infectious matter by thorough irrigations, and to leave one liter of salt solution (6 per cent.) in the abdominal cavity. In order to promote and hasten natural drainage, supplement this by an enema of a liter of salt solution given while the patient is well under anesthesia and in the Trendelburg posture.

"9. Under this plan the patient is greatly stimulated, shock is minimized or averted, the urinary excretion is greatly increased, and thus toxic matters are more easily eliminated without irritation to the kidneys or the bladder, peritoneal infection is quickly eliminated while yet minimum in amount, thirst is alleviated or entirely prevented, intestinal peristalsis is promoted, and consequently tympanites is of less frequent occurrence, and early action of the intestines evacuates infectious matter thrown out into this canal by the blood-vessels of the villi.

"All of these factors combine to reduce mortality after abdominal sections, to decrease pain, discomfort and the complications of the first forty-eight hours, and finally to hasten the recovery of the patient.

"Cases in which peritoneal infusions may be dangerous, and therefore should not be employed:

"1. Ascites accompanying the surgical lesion, which indicates that the natural peritoneal drainage is already deficient. Therefore to add an additional burden through the saline infusions is not advisable.

"2. General purulent peritonitis."

MISCELLANEOUS.

OUGHT THE STARCHES TO BE ELIMINATED FROM THE NOURISHMENT OF VERY YOUNG CHILDREN.

Borde, although admitting that mother's milk ought normally to form the nourishment of the infant, still, when this is impossible to procure, believes that aqueous solutions of starches should be combined with cow's milk for feeding. These decoctions are soothing to the intestine. They are also nutritious. In the starches he includes the starch of the potato, tapioca, starch of wheat, arrow-root, etc., also the decoctions of rice, barley, oatmeal, etc. He emphasizes the advisability of making these decoctions with water, not believing in their efficacy when cooked with milk. But milk can be mixed with the prepared decoctions with benefit. He concludes that: Aqueous decoctions of starch are digested by very young infants; they do not irritate the intestines, but exert a soothing influence, preventing the acute infectious gastro-enteritis of summer; they also aid in curing these affections by replacing advantageously cow's milk and even mother's milk during the acute stage of these maladies. These foods are very nutritious, preventing rachitis and chronic digestive troubles in the babe brought up on cow's milk; the best of these is oats coarsely ground, which contain, besides the starches, albumen and assimilable vegetable phosphates, very useful in the dietary of the child. These starches should first be cooked in water and the resulting product mixed with milk.—*Gazette Hebdomadaire des Sciences Medicales de Bordeaux*, April 28, 1901.—*The Dietetic and Hygienic Gazette*.

THE FIELD FOR ETHYL CHLORIDE NARCOSIS.*

After considering the literature on the subject, and his own experience in both the major and minor operations, Ware comes to the following conclusions regarding this anesthetic: It is as safe, statistically, as any of the others; it induces a very rapid narcosis and equally as quick awakening, and is devoid of after-effects. Against its chief competitor, nitrous oxide, be it said, that it is cheaper, does away with any special apparatus, is portable, and its market is so widespread already as to place the drug at hand for the vast majority of physicians and surgeons.

Indications for its use rise in all minor work in which the exact limits of operative procedure can be predetermined. It has proved efficient for curettage and obstetrical anesthesia, expression of trachoma, reduction of fractures, and as a preliminary to narcosis with other agents. In the latter direction the experience of Dr. J. T. Tuttle amply testify. Likewise the beneficial effect of the mixture employed by Dr. Willy Meyer is in no small measure due to the ethyl chloride it contains. Dr. Ware concludes, therefore, that its future is secure, and that it should take a place among the commonly employed anesthetics.

* Martin W. Ware, M.D. *Medical Record*; *Maryland Medical Journal*.

THE BACTERICIDAL ACTION OF BILE.*

Talma, after consideration of previous experiments performed to determine this point by Vallée, Sieber, Nencki, Fraser, Gilbert, Mosse and others, gives the results of a careful series of experiments performed by himself in which the colon bacillus and diphtheria bacillus, and the typhoid bacillus were tested in this connection. His conclusions are: First, the bile contains a substance which inhibits the growth of colon bacilli, typhoid bacilli, and diphtheria bacilli in most cases. Second, the sensitiveness of the different varieties of bacilli is very variable; virulence especially is not synonymous with tendency to infect the gall-bladder and gall-ducts. Third, the bactericidal property of the bile varies at different times and in different animals. The number of bacteria which succeed in reaching the biliary system is of great influence upon their subsequent fate. The epithelium of the gall-ducts and the liver-cells offer a strong resistance to the invading microbes, especially the diphtheria bacilli.

Habitual Constipation.

Inject 8 ounces of tepid water on retiring, and allow it to be retained until absorbed. Increase the quantity progressively each night while lowering the temperature of the water. If necessary, give an ordinary injection in the morning. Four to six weeks suffice to establish unaided defecation.—Klemperer (*Medical Record*).

Sciatica.—

The following formula for the relief of sciatica, acute or sub-acute, is the most effective I ever prescribed:

Opium powd.....	12 grains
Ipecac powd.....	12 grains
Sodium salicylate	90 grains
Cascara, extract fluid, q. s.....	

Make twelve pills and give one or two at a dose.

These induce activity of the skin, relieve pain, and keep the pulse free.—BENJAMIN WARD RICHARDSON (*The Asclepiad*).

Wintergreen oil, true.....	4 drachms
Turpentine oil, rectified	4 drachms
Acacia syrup.....	2 ounces
Cinnamon water.....	1 ounce

Make emulsion. Give a teaspoonful three or four times daily.

—DANA.

Diarrhoea, Obstinate.—

Silver nitrate.....	1 to 2 grains
Powd. gum Arabic.....	160 grains
White sugar.....	1 ounce
Water, distilled.....	8 ounces

A teaspoonful every two or three hours.

—CONSTANT.

* Talma. *Zeitschrift für klin. Medicin*, 1901 Vol. XLII, Parts 5 and 6.

NEUROTIC CONDITIONS OF CLIMACTERIC PERIOD.

This form of neuroses is considered by the latest and best authorities as essentially hysterical and neurasthenic; a statement that seems borne out at least in part by the predominance of the various reflexes. How far the latter condition may be due to irritation of the nerve-ends in the ovary depends, it would seem, on the degree of atrophy and consequent contraction of the tissues. The ordinary physical disturbances due to menstruation in some cases persist and cause various phenomena and often much annoyance. And while many of these symptoms may be, and some of them doubtless are, neurasthenic, it will be found wise not to abandon special medication. In the greater number of cases, two five-grain antikamnia tablets repeated every hour if necessary, will be found to give entire relief. Under this treatment the reflexes are naturally abolished, the nerves are soothed and the system returns to its normal equipoise. Antikamnia tablets are essentially pain-killers, yet in this instance they nullify the reflexes almost precisely after the same physiological fashion, so to speak, as they relieve pain, and without unpleasant after-effects. In cases of threatened metrorrhagia it is always advisable to administer "antikamnia and codeine tablets" as frequently as may be found necessary, say one every hour until six are taken. (George Brown, A.M., M.D., Atlanta, Ga.)

MEDICAL EXCHANGE.

Dr. W. E. Hamill, who conducts the Canadian Medical Exchange for the purchase and sale of medical practices, has removed his office to the Janes' building. On another page he presents some very inviting offers—which is revised every month so as to include the latest. We commend the Canadian Medical Exchange Office under the able management of Dr. Hamill to any of our readers who wish to buy or sell a medical practice.

THE CANADA LANCET

VOL. XXXV.

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No. 1.

EDITORIAL.

THE VALUE OF BLOOD EXAMINATIONS IN SURGICAL DIAGNOSIS.

THE clinical value of blood examinations, especially in the more purely medical cases, is well appreciated by the profession at large. In this way only can a diagnosis be arrived at in many cases, such as in leukaemia and pernicious anaemia, not to mention malaria and other parasitic diseases, and information of prime importance is gained with reference to other conditions. Less attention has been given in applying these means as an assistance in surgical diagnosis. The matter is discussed in a paper by Bloodgood (*Maryland Medical Journal*), based largely upon the results obtained in the examinations of surgical cases in the Johns' Hopkins Hospital. He calls attention to the dangers attending on general anaesthesia, especially if prolonged, in cases where there is much reduction in the percentage of haemoglobin,—estimates below 50 per cent. being danger signals pointing to the advisability of building up the patient's blood before subjecting him to the risks attending its use.

A slight increase in the number of leucocytes follows the administration of ether but in an ordinary operation they return to the normal within six hours. After this time a sudden rise in the leucocyte count, points to some post-operative complication. In intestinal obstruction, in from 8 to 20 hours from the onset the leucocytes rise to above 20,000. In cases of abdominal distention following operation, apparently due to intestinal paralysis, the leucocytes do not rise above 12,000 to 15,000, so that a careful estimation of them enables the surgeon to differentiate between this condition and peritonitis or obstruction.

In appendicitis, however, the value of a careful estimation of the number of leucocytes has found its most important application in surgery. With few exceptions, a rising leucocytosis points to the necessity for operation. A leucocyte count of 18,000 or over, in the first 48 hours

indicates an advanced pathological lesion, as gangrene, an appendix distended with pus, abscess or beginning peritonitis. In some cases, however, an abscess may be present without any, or only slight leucocytosis, and in cases of intense septic peritonitis the number is but slightly or not at all increased. In this type of case, a low leucocyte count is consequently of unfavorable significance. In acute attacks of appendicitis, where the leucocytes have been below 18,000, or have fallen in number when counted a number of times, the patients have recovered without operation.

The clinical value of blood examinations in these cases will readily appeal to every practitioner who appreciates the difficulty in selecting cases for operation and deciding when to perform it. While not positive, the information gained in this way is of the greatest assistance in conjunction with other data, in enabling the surgeon to arrive at a conclusion. The necessity for careful technique and accuracy need scarcely be insisted upon, otherwise the results will not only be useless but positively misleading. Only thorough acquaintance with the methods and practice in their application can give the skill requisite to make the results obtained by the observer a safe guide in any case.

THE BRITISH MEDICAL ASSOCIATION AND THE COLONIES.

Probably the most important item of business at the Cheltenham meeting was the report of Mr. Edmund Owens' Committee, the Constitution Committee. It is most exhaustive, and after thorough discussion at successive general seditments of the Association, was adopted with little change from the original. Special interest attaches to it from the provision specially made for membership in India and the Colonies. The fact that Mr. Owen is of Canadian birth is interesting in this connection. The Imperial Federation idea is fructifying rapidly in the British mind, as well as in the Colonial, and it is earnestly to be hoped that the cause will be helped forward, as it can be very effectively, by a prompt and widespread decision on the part of the profession in Canada and elsewhere to avail ourselves of the advantages of membership in so old and honoured a body as the British Medical Association.

The primary unit of organization is the Division, and a group of Divisions is known as a Branch. The Division is to be small enough geographically to allow all members in the Division "a reasonable opportunity of attending every important meeting thereof."

The autonomy of the Divisions and Branches is safeguarded so perfectly that we feel we can make the sweeping suggestion that the large and useful societies already existing in Canada, particularly the

Provincial and the Canadian Medical Associations, would add to their prestige and usefulness by "coming in" as they are, already organized.

The Ontario Medical Association would become the Ontario branch of the British Medical Association, with Divisions, such as the Toronto, the Hamilton, or the York County, the Wentworth County, etc., Divisions of the British Medical Association. And societies already existing locally, such as the Clinical, Pathological, Toronto Medical, etc., here could, we are persuaded, with much advantage, become the Pathological, Medical, Surgical, etc., sections of the Toronto Division of the British Medical Association. The idea has long been current in Toronto that an Academy of Medicine should be formed as a centre round which the separate societies might group themselves, as in New York and other large centres. It seems to us that this affords an opportunity for a much larger, better scheme, by which, apart from patriotic or national motives, we might secure the professional stimulus, strength and widening of outlook which must attend membership in a worldwide association, with the Journal coming to each member and bringing every week the latest and the best of medical science to our library tables from the very ends of the earth.

The provisions made for self government, election of members, representation in the Central Council and representative meetings, annual subscription, and grant to branches, are of the most liberal kind, and it appears to us that some general and concerted move in the matter should be made, rather than isolated sporadic attempts resulting only in forming "Divisions" here and there in the large Canadian centres.

J. T. F.

AN IMPORTANT JUDGMENT.

A case involving a point of more than usual interest to the medical profession was decided in Toronto last week. A leading surgeon of the city was called in consultation with the physician in charge of a case. An operation was deemed necessary, of which fact the woman's husband was acquainted, and with which he was satisfied. The patient was operated on and made a good recovery. The first dissatisfaction arose when the surgeon wished to be paid. The husband refused payment on the ground that he had not retained the surgeon's services and that the attending physician had no right to do so. The case came before Chief Justice, Sir William Meredith, and was decided in favor of the consultant, who received judgment in full for his fees, with costs.

The decision is one that will meet with the approval of all fair minded people, and the surgeon is to be congratulated in refusing to compromise a case that involved not only his own rights but the interests of the profession in general.

EDITORIAL NOTES.

The subjoined clipping from the *Toronto Evening News* is a hopeful sign and indicates possibly the rising of the tide of public opinion against the vagaries of those hopeless visionaries, the misnamed "Christian Scientists." The jury we trust represents the opinion of the public at large in its sensible and caustic comments.

"Mr.—, the Christian Science operator was recalled, and put through a questioning as to his views on contagion. He found himself embarrassed. He apparently lacked the nerve to say there was no such thing as contagion, and yet he halted before tossing overboard the fundamental principle of the Christian Science belief. He simply could not find a satisfactory answer to Mr. Dewart's questions, and did some tall hedging.

The jurors returned the following verdict:—

That the said Roy Lewis came to his death on Tuesday, August 13, at the home of his parents, 18 Markham street, from diphtheria, and we find that Andrew Lewis, the father of the deceased, showed culpable criminal negligence in not providing medical assistance, medicine, nursing and comforts, and that Richard Perry, the Christian Science demonstrator, was an accessory after the fact, inasmuch as he undertook to advise and treat a dangerous and contagious disease, which he admitted he was totally ignorant of. The teaching of the sect known as the Christian Scientists, as brought out in the evidence, is a danger to the community, and the jury would recommend that the law should make it a criminal offence for a demonstrator of this peculiar sect to attend or treat a case which is not being attended by a duly qualified practitioner."

Varsity Men of 1890.—A very pleasant hour was spent Sept. 3rd at luncheon in Webb's restaurant on the Exhibition grounds by the Toronto University medical graduates. Letters of regret were read from Professor L. Barker, Philadelphia, Dr. R. V. Bray, Chatham and Dr. H. H. Oldright, St. Catharines. The following officers were elected: Chairman, Dr. Thomas E. Kaiser; Vice-Chairman, Dr. E. Herbert Adams; Cor.-Secy., Dr. Arthur Mayburry; Rec.-Secy., Dr. W. C. Herriman; Treas., Dr. W. H. Philips; Executive, Dr. L. Barker, Dr. R. V. Bray, Dr. John Haul, Dr. J. L. Smith.

Huron Medical Association.—The regular quarterly meeting of the Huron Medical Association was held in the Council Chamber, Clinton, on Sept. 6th, those present being Drs. Turnbull, Goderich; Woods, Bayfield;

Smith, Mitchell; McKenzie, Moncton; McCallum, Londerboro; Robertson and Dunsmore, Stratford; Shaw, Gunn, Graham and Thompson, Clinton. Dr. Dunsmore was elected president; Dr. Burrows, vice-president and Dr. Shaw re-elected secretary-treasurer. Dr. Smith read a paper on "Erythema Multiforme" which simulated small-pox, rendering much care necessary in pronouncing a diagnosis. Dr. McKenzie read a paper on "Lightning Stroke," exhibiting the clothing and shoes that had been badly burnt, still no bad effects followed; he also read a paper on "Three Cases of Nervous Diseases in Children." Dr. Shaw read a paper on "The Treatment of the Prostrate Gland," Dr. Graham taking the medical treatment, Dr. McKay, etiology, Dr. Gunn, the surgical treatment.—*Clinton New Era*.

The opening lecture of the University of Toronto Medical Faculty will be delivered by Dr. J. F. W. Ross, in the Biological Department of the University, on Wednesday evening, Oct. 1st, at 8.30 o'clock.

PERSONAL.

Dr. F. H. Ferguson (Trinity '01), has begun practice at Delta, Mich.

Dr. W. F. Pratt, of Ottawa, was found dead in bed on the morning of September 19th.

Dr. Jas. A. Ashbaugh, (Trinity '91), of Windsor, has been spending a few days in Toronto.

Dr. B. Coats, (Trinity '92), and Dr. Ira Tripp, (Trinity '96), of Cleveland, are visiting friends in Toronto.

Dr. R. Hillier, of Leamington, Ont., has been spending the summer at the New York Post Graduate School and Hospital.

Dr. Thos. S. Cullen, Associate Professor of Gynaecology, Johns' Hopkins Medical School, was married recently.

Dr. and Mrs. George A. Bingham, of Church St., Toronto, have returned from Europe, where they have been spending a holiday.

Dr. R. B. Nevitt, of Jarvis St., Toronto, has purchased a property on Bloor St. W., where he will remove in a short time.

Dr. J. J. McKenzie, Professor of Pathology, Toronto University, has returned from Europe where he has been spending the summer in laboratory work.

Dr. Alex McPhedran of Bloor St., Toronto, has returned from Europe. Dr. McPhedran is giving his attention entirely to consultation work in medicine.

The engagement of Dr. Allen M. Cleghorn, (Trinity '92), lecturer in Physiology in the Harvard Medical School, Boston, to Miss Gartshore, London, is announced.

Dr. Samuel Westman, of Spadina Avenue, Toronto, was married on September 17th to Miss May Pugsley, daughter of John Pugsley, Esq., of Bloor St., Toronto.

Dr. Donald McGillvray, (Toronto '98) and subsequently a member of the resident medical staff of the General Hospital, has opened an office at 12 Carlton St., Toronto.

Dr. Nathan Smith Davis, LL.D., is the oldest living president of the Chicago Medical Society, and will be banquetted by his fellow-members at the Auditorium Hotel, Chicago, on August 5th.

In the annual announcement of the *New York Polyclinic*, just issued, Dr. Price-Brown's book on "Diseases of the Nose and Throat," has been placed on the list of recognised text-books.

Dr. T. B. Fitcher, of the Johns' Hopkins Hospital, Baltimore, is spending a few days with friends in Toronto. Dr. Fitcher is going into private practice, opening an office in Baltimore this fall.

Dr. Norman M. Harris, assistant in Pathology, Johns Hopkins Medical School, who has been spending the summer in research work in Europe, is visiting friends in Toronto on his way back to resume his duties in Baltimore.

Dr. Donald Armour, formerly a member of the resident medical staff of the Toronto General Hospital, has resigned his position in the Anatomical Department of Chicago University, and returned to London, England, where he has an appointment on the staff at University College.

Dr. H. J. Hamilton and Dr. J. O. Orr, of Toronto, gave a dinner at the Albany Club on Sept. 19th to Dr. John Caven, of Toronto, on his resuming professional duties after his illness, at which a number of Dr. Caven's intimate friends were guests.

The medical profession generally will be glad to learn that Dr. John Caven, formerly Professor of Pathology in the University of Toronto, which position he resigned owing to ill-health, has entirely recovered and will shortly enter upon consultation practice in Toronto.

The LANCET offers congratulations to Dr. Charles O'Reilly, superintendent of the Toronto General Hospital, on his being elected Vice-President of the American Association of Hospital Superintendents at their recent meeting in New York. This is another instance of the international good-fellowship at present existing, as Dr. O'Reilly was the only Canadian at the meeting.

OBITUARY.

THE LATE JOHN DUNCAN.

Among the many unfortunates who lost their lives by the wrecking of the steamer *Islander* in Lynn canal while en route from Skagway to Victoria was one of the best known members of the medical profession on the Pacific coast, Dr. John A. Duncan, of Victoria, B.C. The accounts of the disaster given by the survivors state that Dr. Duncan, utterly forgetful of his own safety, perished in a futile attempt to save the wife and child of Governor Ross of the Yukon district.

Dr. Duncan was a native of Russell County, Ont., and was graduated from McGill College. He went west with C Battery during the Riel Rebellion in 1885 and the following year settled in Victoria, where he continued to practice until the time of his death. Such kindness of disposition, unselfishness, courage and true manhood as he exemplified throughout his professional career, had a fitting termination in a death by giving his life to save others. He has not only left a name that will always be cherished by those who knew him, but he has reflected lasting honor on the profession to which he belonged. His untimely death, under such sad circumstances, has caused the deepest sorrow among all classes of the community.

The funeral service in St. Andrew's Presbyterian Church was conducted by the Rev. W. Leslie Clay, who, in eulogizing the deceased, made a very feeling reference to the Doctor's unselfish professional wont.

BOOK REVIEWS.

Rhinology, Larynology, and Othology, and their significance in General Medicine, by E. P. Friedrich (Leipzig). Translated and Edited by H. Holbrook Curtis (New York). Published by W. B. Saunders & Co., Philadelphia and London; Canadian Agents, J. A. Carveth & Co., Toronto.

In this volume, as is well said by the translator, "we greet a masterly treatise of a thoroughly original type, the intrinsic worth of which warrants its appearance in our own language."

The author has discharged his duty thoroughly, confining himself to the positive, and disregarding the speculative, in his endeavor to present to the reader nothing but exact and well established information upon the relations which manifest themselves as disturbances of the general

organism in disease of the nose, throat and ear, or as disturbances of the special parts in general disease.

The translation has also been exceedingly well done. The treatise is easy to read ; there are no involved sentences, the interest is well sustained and the work is one which every general practitioner desiring to acquaint himself with the rapid advances of otolaryngology must peruse with profit and satisfaction.

The arrangement of the subject matter is such that the general practitioner here possesses the facilities for obtaining information bearing directly upon his general cases in a way that no text-book on these specialties with which we are acquainted has yet given him.

To treatment, there is but one reference in the whole book.

Where there is so much that is good it is difficult to make selections, but the opening chapter upon the interdependent relationships of the upper and lower air passages, the ear and the lungs are especially valuable, and among the opinions expressed by the author and proved by a resolute marshalling of all the facts bearing thereon, one may quote the following :

"Every and all diseases of the nose and post-nasal space which are followed by obstructions of the nasal passages lead to passive hyperæmia in the mucous membranes (of the ear), which in turn produces occlusion of the Eustachian canal."

"There can be no hope of curing the ear affection before the causes which are responsible for the congestion have been removed and the permeability of the tube restored."

"We cannot emphasize too strongly that air douches, as well as the ordinary nasal douche are to be avoided in acute diseases of the nose and throat with inflammatory changes in the Eustachian tubes."

"The changes produced in the shape of the upper maxilla by obstruction of the nasal respiration" are classified after Korner, and the opinion expressed that they are due to "the pressure exerted on the sides of the jaw by the stretching of the cheeks when the mouth is open."

"Marasmus must be regarded as a frequent cause of the disease of the ear found in infancy and in early childhood associated with diseases of the gastro-intestinal canal." "In all intestinal diseases of infants accompanied by rise in temperature and loss of weight, the ears should be examined to ascertain whether any inflammation is present."

The chapters on the acute infectious diseases are also especially worthy of mention. The author states that a "review of our knowledge concerning the nature and course of the otitis justifies the conclusions that there are two varieties, the second representing a complication of the first: 1st, a true measles eruption affecting the mucous membrane (of the ear), and 2nd, a suppurative process with perforation as a result of mixed infection, which finds a favorable soil in the mucous membrane weakened in its resisting power by the primary disease."

"In scarlatina," the catarrhal angina represents the earliest reaction of the organism to the scarlatinal poison, which gains entrance to the system through the mucous membrane of the throat (restricted in the main to the pharynx, faucial pillars and tonsils). "While the acute otitis

media beginning during the period of desquamation (3rd to 4th week) is plausibly due to the action of the same toxins which give rise to the nephritis (of the same period).

The references are chiefly confined to the continental investigators, while those of England and America receive scant notice; still the view point of the author displays most extensive acquaintance with experimental research, and the blame may rather lie with ourselves.

GIBB WISHART.

JOURNAL OF MEDICAL RESEARCH.

A Continuation of the Journal of the Boston Society of Medical Science. Edited by Harold C. Ernst, M.D. Vol. 1, No. 1.

This Journal is supported by the American Association of Pathologists, the Boston Society of Medical Science, and other sources of strength.

The Journal will be promptly issued in numbers as often as material for fifty or more pages is received. The numbers will make up volumes of about five hundred pages, price \$4.00 per volume. The present number contains nearly three hundred pages, with no advertisements. The idea of promptly publishing the results of original research in medical science is a happy one, and the work as given in the present number is of the highest order. The type and paper are good; and the plates (some of them colored) leave nothing to be desired.

The Journal will be of great value to those engaged in laboratory work, and when we bear in mind that original research and the cosmopolitan tendency of medical science has lifted the profession from mere empiricism to an acknowledged science, we cannot but conclude that it is the duty of every practitioner who wishes to keep abreast the times, to read and give his support to each research.

Bacteriology, with Pathology and their confrere Histology, are the foundation of Medical Science proper of to-day, and the gentlemen are philanthropists who spend their time and energy in original research in these subjects.

L. BENTLEY.

ANDERS' PRACTICE OF MEDICINE.

A Text-Book of the Practice of Medicine. By James M. Anders, M.D., Ph.D., L.L.D., Professor of the Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Fifth Edition, thoroughly revised. One handsome octavo volume of 1,297 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth \$5.50 net. Toronto: J. A. Carveth & Co.

In four years, five editions of the above work have appeared. This speaks very strongly in proof of the fact that the work has many valuable features; and has proven itself of real service to the general practitioners, for whom this work has been specially written.

The whole field of general medicines is covered by the work. In this respect it is very complete. Some diseases that are often regarded as surgical affections, as septicaemia, pyaemia, syphilis and empyema, find a place in the volume.

The work is brought thoroughly up-to-date. The latest views on infectious diseases and bacteriology are recorded. This portion of the work is particularly good. Among the infectious diseases are included acute and sub-acute articular rheumatism; catarrhal, amebic, diphtheritic and chronic dysentery, and muscular and chronic articular rheumatism. From this classification, some might dissent, but the author advances good reasons for the arrangement adopted.

The section on constitutional diseases is very ably written. Diabetes mellitus is regarded as caused by disease of the pancreas, usually granular atrophy, in about half the cases; to interference with the glycogenic function of the liver, from hepatic disease, or nerve derangement, as puncture of the fourth ventricle, or section of the pneumogastric nerve, to the ingestion of more carbohydrates and peptone than can be stored in the liver, alimentary glycosuria; and to any failure to convert the carbohydrates into fat by either the intestinal villi, or the liver. Diabetes insipidus may be caused by shock or fright, by infectious diseases, by intemperance or by heredity. In most cases it is of nervous origin. Arthritis deformans, the author contends, cannot be regarded as in any way connected with rheumatism or gout. It is of neuropathic origin, and is specially dependent on affections of the nervous system, as ataxia, shock, etc. Gout is discussed with much ability. He holds that there is an excessive absorption of nutritive substances, defective metabolism from imperfect development and too little exercise, defective elimination of waste products. The uric acid theory is well stated, and the opinion given that failure of the renal function precedes the gouty manifestations, and an excess of uric acid in the blood are responsible for most cases. With regard to purpura hæmorrhagica it is stated that there can be little room for doubt that it is an infectious disease. The pathology of hæmophilia is to be sought for rather in the vessels than in the blood. Vasomotor disturbances play an important part in the etiology of attacks. In many cases the middle muscular coat of the arterioles is wanting or very thin.

Diseases of the blood and ductless glands are handled in an independent spirit. Chlorosis is regarded as due to a group of causes, such as heredity, a family tuberculous taint, unhygienic conditions, copraemia, nervous worries, grief, emotion, disappointment, home-sickness, etc., and sexual disturbances. Progressive pernicious anaemia is divided into cases in which no cause can be found, during life or after death; those where a cause is found only after death; and those where the cause is discoverable during life. With regard to the obscure group of cases, the author gives favorable consideration to the views of Stengel of a gastro-intestinal auto-intoxication, and of Hunter, that there is an infectious process in the digestive canal. Malignant disease and parasites have been found *post mortem* as causes. Hemorrhages, diarrhoea, worry, profound chlorosis, pregnancy, mental shock have been noted during life as causes. Leucocythaemia is regarded as most probably of microbial origin. The changes in the spleen, lymphatic glands, bone-marrow, and the granuloma character of the leukaemic growths point to this view. The views of Vehsemeyer and Kottwitz, that the disease is due

to auto-intoxication of the system by albuminoid and peptones, absorbed from the digestive canal, are mentioned. Hodgkin's disease, or pseudo-leukaemia, is regarded as having the weight of evidence on the side that it is an infectious granulomata of the lymph glands, though the infectious agent has not yet been discovered. As a proof of this there are instances of the disease developing in persons who were apparently in perfect health. Exophthalmic goitre is regarded as due to disturbance in the function of the thyroid gland. This is the view held by Möbius, and the author thinks it is amply supported by clinical evidence.

Autumnal catarrh, or hay fever, is regarded as due to the odorous principle of certain plants and inorganic dusts; but sometimes it is excited by strong emotional disturbances. Atropia, gr. $\frac{3}{160}$ every hour till the throat becomes dry is highly recommended. Or $\frac{2}{160}$ may be given hypodermically every three or four hours till the desired effect is produced. The author regards the paroxysms of ordinary asthma as due to cont action of the muscles of the smaller bronchi. This view is strongly combatted by many, and on what appears to be good grounds, the condition being due to a sudden dilatation of the vessels of the bronchial mucosa, and not to a contraction of the muscle fibres in them. In pleurisy the following rules are laid down for aspiration. In acute cases when one side is filled, when both sides are half filled, when rales are heard on the opposite side. marked displacement of the heart, dyspnoea, cyanosis, or syncope. In the afebrile stage aspirate if the fluid does not diminish in a week, or in subacute cases with little or no fever from the commencement.

In ulcerative endocarditis mention is made of the value of the anti-streptococcic and antistaphylococcic sera. The discussion on valvular diseases of the heart and their treatment is excellent. The advice on the use of digitalis, cardiac stimulants and tonics is reliable. The opinion that digitalis improves the nutrition of the heart muscles by improving the circulation is sound teaching. Arterial sclerosis in those under mid life is almost always due to alcoholism, syphilis, lead-poisoning, gout and chronic nephritis. A simple diet and the long continued use of potassium iodid are the mainstay in treatment. In the treatment of thoracic aneurism, rest and potassium iodid are given as of most value.

Throughout the study of diseases of the digestive organs, a good deal of attention is given to their infective, or bacterial side. In the etiology of gastric ulcers two conditions are held as definitely settled, self digestion of a portion of the stomach, and the previous reduction in the alkalinity of the part. In the diagnosis of carcinoma of the stomach much stress is laid on the absence of hydrochloric acid and the presence of lactic acid after a Boas's test made.

It would not be possible to review all the sections in detail; but they contain very full information for such as may consult them. It is a work of much individuality, the author always giving the reader the benefit of his opinion, as well as collecting the opinions of others. In the subjects of diagnosis and treatment, the work is full and explicit. The statements made are also in accord with the latest reliable researches.

The work is well gotten up. The paper, type and illustrations do justice to the publishers.

JOHN FERGUSON.

OPERATIVE SURGERY.

By Joseph D. Bryant, M.D., Professor of the Principles and Practice of Surgery, University and Bellevue Hospital Medical College. Vol. 2. New York, D. Appleton & Company, 1891. Canadian Agents, George N. Morang, Toronto.

When the first volume of this work was reviewed, the prediction was made that the completed work would take rank with the best in the English language and would be a worthy rival of the work of Treves & Jacobson. This second and concluding volume more than bears out such prediction.

Dealing with original surgery, it necessarily takes up those subjects in which the most signal advances of surgical science have been made in the present generation. Without going into details, one may refer to the section treating of operations on the viscera connected with the peritoneum, and this reviewer is prepared to take and maintain the statement, as no better presentation of the subject can be found in similar space elsewhere in the English language. It is not simply good, it is admirable! It is scientific, practical, helpful, in short, just what it should be and just what such sections often are not. As a guide to practice it is thoroughly modern and safely and scientifically aggressive. It can be commended without the least reservation. Other sections of the work, as for example those dealing with the operations performed upon the head and neck, as well as upon the genito-urinary organs are equally satisfactory and show that every procedure discussed has been tested fairly and fully in the writer's own ample experience. The book is issued in D. Appleton & Company's well-known style, and having said this it is quite unnecessary to say more.

N. A. P.

PUBLISHERS' DEPARTMENT.

THROAT AND LUNG TROUBLES.

The season will soon be here for the usual epidemic of coughs and colds with thousands of cases slow to respond to ordinary treatment. The value of Petroleum at the very beginning of throat and lung troubles is acknowledged by leading physicians of this country and England, the results being quick and decisive. The use of opiates or other narcotics that soothe and quiet temporarily is to be avoided. They disturb digestion and cause constipation, frequently doing more harm than good. Angier's Petroleum Emulsion with Hypophosphites soothes and heals the inflamed mucous membrane, and is the first thought of physicians who have used it in the treatment of coughs and bronchial troubles generally. Unlike Codliver Oil it does not upset the stomach or disturb digestion, but puts the organs in a condition to assimilate and digest nutritious food, and it may be prescribed with confidence in all diseases where Codliver Oil has been heretofore indicated.

THE CANADA LANCET

VOL. XXXV.

OCTOBER, 1901.

No. 2.

REPORT OF CASES TREATED WITH SUPER-HEATED DRY AIR.

By W. H. PEPLER, M.D., L.R.C.P. (London).

Assistant in Pathology, Trinity Medical College.

AS the treatment of disease with super-heated dry air has been so thoroughly discussed during the last two or three years, I have decided to limit myself almost entirely to personal observations with a report of a few cases that have come under my care.

Some time ago, becoming interested in the subject and convinced that the treatment was rational, I obtained an apparatus of the following description:—

The apparatus proper consists of a long copper cylinder open at either end which closes during the treatment by means of a metal door at one end, and a curtain of Turkish towelling at the other. There is a trap door in the top of the cylinder to which reference is made below. The heat is obtained by means of Bunsen burners placed beneath the cylinder. The hot air passes up inverted funnels into a square chamber where it is stored and then conducted up through a series of perforations into the treatment chamber. The temperature is indicated by a high temperature thermometer projecting through the roof, the bulb of which is inside the treatment chamber. In addition to the apparatus proper I use a steam roller bed as shown in photograph. This enables me to treat my patient with as little unnecessary exertion as possible, a most important item in many painful conditions. The bed is provided with poor-heat-conducting mattresses.

METHOD OF GIVING TREATMENT.

The remedy should be applied at least one hour after a meal and with as little previous excitement and exertion as possible. The patient is clothed in a long flannel robe, lies on the roller bed, and has a blanket wrapped around him from the shoulders down. This causes a certain amount of absorption of the moisture as it exudes from the skin and also helps to promote sweating.

The pulse and temperature are taken and the urine is examined before the patient enters the cylinder.

The position of the patient while taking treatment is, I think, important. I endeavor to get the greatest direct heat applied to the affected part. The roller bed with the patient in position is now run into the treatment-chamber, where the heat as shown by the thermometer varies from 100°F. to 200°F. according to the circumstances of the case. I find that it is in every case preferable to begin with the temperature of the cylinder about 100°F. and let it gradually rise, as the patient is less nervous and the skin gradually becomes accustomed to the super-heat. It only takes 20 minutes from the time the gas is first turned on to acquire a heat in the treatment chamber of 300°F.

During the treatment I frequently open the trap-door spoken of above. This acts as a ventilator changing the air; it also allows the air that is charged with the evaporated moisture exuded from the skin to escape, thereby completely drying the air in the cylinder. This is really the secret of the treatment, for if the air is allowed to remain moist in the cylinder, the patient will probably scald long before the required temperature is reached. The trap door serves still another purpose; it enables me to watch the conditions of the parts of the patient that are being subjected to the heat.

The pulse and temperature are taken during treatment.

The average duration of the treatment is 45 minutes, but varies somewhat with character of disease, and temperament of patient.

PHYSIOLOGICAL AND THERAPEUTIC EFFECTS NOTICED.

LOCAL: Dilatation of all the superficial blood vessels causing a free circulation through that part.

A uniform reddening of the skin.

Removal of any turgescence and stasis previously present.

Free perspiration; great relief of any pain and restoration of mobility, especially when the want of movement is due in any degree to pain.

GENERAL: The pulse increases in strength and rapidity from 10 to 20 beats per minute, neither noticeably full nor dicrotic; small nor irregular. One hour after the treatment the pulse is generally lower than before entering the cylinder.

General profuse perspiration and dilatation of the blood vessels.

A sensation of relaxation and comfort.

Temperature increases from $\frac{1}{2}$ to 2° F., average 1° F.

Increase in number of respirations from 2 to 6 per minute.

Stimulation of lymphatics and nervous system.

More vigorous contractions of the heart.

Lowering of blood pressure. Increased alkilinity of blood enabling the uric acid to be dissolved more freely, thus relieving pain and nervous depression consequent upon its presence, and a heat reaction causing some molecular change in the great nerve trunks.

Analysis of urine shows sp. gr. increased slightly. Solids increased especially chlorides—3 grs. per diem; uric acid and urates also increased. No albumen present. I have observed no ill effect from the treatment. The patients complain of no disagreeable head or heart symptoms during

or after treatment. They generally derive comfort and not pain from the super-heat and express a feeling of exhilaration and refreshment.

When I consider the patient has been in the cylinder long enough, he is wheeled out on the roller bed to cool off for half an hour. He then gets an alcoholic rub down and massage or electricity if ordered.

I append a few cases notes

CASE 1. Patient a man aged 35 who was suffering from a varicose ulcer on the right leg 1 inch in diameter together with the usual dilated veins, stasis, discoloration and chronic fibrous connective-tissue thickening that accompanies such a condition. Patient was suffering considerable pain; walked quite lame.

First treatment, Sep't 3rd, 1900. Patient prepared in usual way; both limbs placed in treatment chamber up to the hips. Cylinder temperature on entering chamber 100° F. Maximum temperature used 290° F. Duration 35 minutes. During the treatment the patient perspired freely and said he was very comfortable, the leg felt much easier and although he was more conscious of the heat at seat of the ulcer, it was not painful. On his removal from the cylinder, a large amount of the turgescence and swelling had disappeared, the dilated veins had been reduced to a very great extent, the limb presenting a more healthy appearance. Patient walked home with very little discomfort.

Second treatment, Sep't 6th. Since last treatment the patient has been more comfortable; varicose conditions somewhat improved. Ulcer looks a little healthier. This treatment was commenced with cylinder temperature at 180°F., reaching as high as 300°F. and continued for 45 minutes.

Third treatment. Given 10 days later. Similar to second. Ulcers much reduced in size and taking on healthy action. Much less swelling of leg and no pain. Did not hear from the patient for a month when he stated ulcer was completely healed, the leg not giving him any trouble. The only other treatment used was a dry dressing of boracic acid, the patient working through treatment.

CASE 2. Patient aged 22 years, was first troubled with rheumatism in his back two years ago; has suffered more or less from it ever since. About a year ago it developed in the ankles and he was laid up for six weeks. Went to Mount Clemens baths, for two weeks with very little benefit. Complains of a good deal of pain in both ankles and back. Ankles, somewhat swollen and puffy; no reddening; tender to touch. Patient had an attack gonorrhea at time rheumatism first appeared.

First treatment, Nov. 30th, 1900, Temperature on entering cylinder as shown by thermometer was 230° F. Maximum temperature 300° F. Duration of treatment 3.30 p.m. to 4.10 p.m. During treatment he perspired very freely and complained of no discomfort.

Second treatment, Dec. 3rd, 1900. Report says pain in ankles has quite disappeared since last treatment and back slightly improved.

This patient received six treatments in all. In one of the treatments I noticed the thermometer showed the temperature in the cylinder to be as high as 320° F. while patient perspired freely and felt comfortable. Have seen patient occasionally up to a month ago, and although he still complains of a very occasional pain in the back, is otherwise well.

CASE 3. Woman aged 42. Disease began Jan'y, 1900; both shoulders stiff and painful, also elbows and wrists, movement of these joints limited. All phalangeal joints are enlarged; cannot flex fingers to palm; knees are enlarged and painful, movement limited; ankles swollen. Patient has been unable to walk for three weeks; can only stand up for a very short time with assistance. Has had cough and lost flesh, appetite poor.

First treatment, Nov. 21st, 1900. During treatment patient says she never perspired so freely before. Maximum temperature of cylinder 310°F.

Second treatment, Nov. 24th, 1900. Says her knees have been very painful since last treatment.

Third treatment, Nov. 27th, 1900. Patient seems very weak and poorly in herself. Hands and wrists more swollen and painful. Cylinder temperature of only 290°F. used.

Fourth treatment. Patient feels better; appetite improved; no change in joints.

After giving eight treatments without benefit this case was abandoned on account of the extreme weakness and lung condition, which showed phthisis.

CASE 4. Patient a medical man, age 32; had pains in his left leg about a year ago but not very severe and in a short time went away entirely until July, 1900, when they returned after he had been bathing. Has felt pains more or less ever since. About three weeks before coming to me got feet wet, when an acute attack of sciatica set in. Tried to keep up for two weeks but at the end of that time was obliged to remain in bed. Pain severs in neighborhood of the sciatic notch. More acute at times and prevented sleep. Has tried hot application, massage, electricity without benefit; in fact the latter increases the pain. All drugs were of no avail.

First treatment, Nov. 23rd, 1900. Patient perspired freely; said he felt better than after any of the other treatments he had taken.

Second treatment, two days later. Maximum temperature in cylinder 310°F. Patient reports that the pain has been less acute and resting better at night.

Patient, after taking four treatments, complained of no pain except when he walked; was able to sleep much better. He afterwards took two weeks treatment at St. Catharines mineral baths and returned quite well. He has not complained since.

CASE 5. Patient florid, full-blooded man, aged 55, had an acute attack of rheumatism in his feet 34 years ago, but was not troubled much with it for some 9 years when he had another attack, which was not so severe. It came on suddenly and lasted for about 10 days. Present attack came on 6 weeks ago: both feet and ankles are considerably swollen and painful, left one in particular. Movement in both limited. There is a patch of eczema on the top of the head extending to the forehead. It has been there for three years. Cannot sleep on account of pain. Has taken everything in the way of drugs for the rheumatism without any benefit. Has also used hot dry air applied locally without avail.

First treatment, Dec. 1st, 1900. Patient's skin did not act very freely although the thermometer showed 330°F. Said ankle was not so painful after treatment.

Second treatment, Dec. 5th, 1900. Patient felt much better and was able to walk better for two days after last treatment. Feet and ankles a little more painful.

Third treatment. Since last treatment patient has been sleeping better and until to-day has been able to walk with less pain. There was no pain in the feet after this treatment.

Patient took eight treatments. He continued to improve; ankles became less tense and swollen and says his health has not been so good for years. The eczema shows decided improvement. An ointment of ichthyol 10 per cent. also used.

In a letter I recently received from this patient he writes: "I must say the treatment has exceeded my expectations; I am much better in every way than I have been for the past four or five years. When not moving about I am almost free from pain. It is only when walking that I feel an occasional twinge. Should I, however, have a relapse you may be sure I will be after you and the hot air treatment again."

CASE 6. The patient, a professional singer, aged 27, suffering from periodical attacks of acute laryngitis and catarrhal inflammation of upper respiratory tract for which he has taken the dry hot air treatment several times in the United States with beneficial results. Present attack, two days duration, patient quite hoarse, almost constant dry, hard cough; post pharynx and larynx shows acute catarrhal inflammation, temperature 99°F.

First treatment, Dec. 10th, 1900. Patient preferred to take the treatment without covering of any kind. Maximum temperature in treatment chamber 310°F. Patient perspired freely; did not complain of feeling the heat uncomfortable. Voice clearer after treatment, felt exhilarated. Continued treatment next day stating that he was feeling much improved. Had slept much better. Patient left my house each day after treatment, walking a distance of two miles with the thermometer at zero. Met patient on the street about a week later, when he said he had left the cold in my hot air bed.

CASE 7. On the 19th of May, 1900, patient, a man aged 25 was working on the railroad between two freight cars, when the car behind him ran on his right heel and held his foot fast. Patient had on a very thick boot or the foot would have been completely crushed. The doctor who attended to him at the time said there were no bones broken.

Patient was in bed 5 weeks at the time of accident and then was only able to walk with crutches; did not work for 5 months. Has had some rheumatism in the right shoulder.

Present condition shows some discoloration, swelling, immobility and tenderness of foot and ankle. The pain in the foot extends from the instep to the big toe and there is considerable swelling on the outside of foot. When patient walks he does so chiefly on heel of right foot as he does not seem to be able to spring on the fore part of the foot.

First treatment, Feb'y 18th, 1901. Was followed by massage, both legs up to hips in cylinder. Patient perspired freely.

Second treatment, 2 days later. Several adhesions seemed to give way under massage.

After second treatment, patient said foot did not hurt him as much ; seems more moveable.

During the 5th treatment many adhesions gave way and ankle joint much more moveable and did not grate so much.

After 6th treatment patient stated he could spring off the front of the foot much better, walking giving him very little pain ; none otherwise.

Patient received 12 treatments and made an uninterrupted recovery.

CASE 8. Man aged 42, had an acute attack of lumbago on the 19th Ap'l which confined him to bed for four days. He took hot water baths and rubbed enbrocations until skin raw without any beneficial results. Patient suffering considerable pain in lumbar region.

First treatment, April 25th, 1901. Perspired freely, but complained of neuralgia in head while taking treatment. Pain in back felt somewhat relieved.

Second treatment, April 27th. Patient states that he had a severe attack of neuralgia after the first treatment. He, however, is subject to neuralgia. The lumbago is better than last day. After 4th treatment patient reports that he is feeling very much better ; has no pain in the back to-day at all. This patient took three weeks treatment at St. Catharines mineral baths and made an excellent recovery.

CASE 9. Patient, male aged 45, had an operation for a urinary trouble (probably stricture) about 6 months ago, and pain in back came on about two weeks later. Has suffered a great deal of pain in the back ever since. Complains of a boring sensation in both heels ; has tried cupping, mustard leaves, liniments ; had back cauterized, also tried hot air treatment in Royal Victoria Hospital, Montreal. The latter he said seemed to do him the most good, and his physician in Montreal ordered him to continue them in Toronto. Patient is very nervous and depressed ; suffers from insomnia. He took 10 treatments without any apparent benefit, one day feeling a little better and the next not so well, so I decided he should discontinue the treatments for a time and watch the results. I received a letter from him dated Aug. 21st, last in which he says :

"I am feeling quite a little bit better and I hope I will soon be well."

CONCLUSIONS.

I find the super-heated dry air a most valuable addition to the ordinary treatment of all rheumatic affections, gout and interstitial neuritis. Of rheumatoid arthritis, that distressing and almost incurable disease, my experience has been too limited to speak. Yet most encouraging reports have been published by such well known men as Dr. Kessler, Brooklyn, Knowsley, Sibley, Dr. Willett, London, and Prof. Stewart, Royal Victoria Hospital, Montreal. The treatment almost instantly relieves pain, causes rapid absorption and repair of tissues, aids elimination and has a marked sedative action on the nervous system. To obtain the most benefit I find it necessary to subject a considerable

portion of the patient's body to a temperature of from 280° F. to 320° F. This brings about marked constitutional changes which mean better local results. I found decidedly less relief from local treatment alone. The treatments must follow one another at short intervals at first, as patients relapse if any length of time supervenes. The results are often not apparent for some time after treatment.

PUERPERAL INSANITY.

By ERNEST HALL, M.D., L.R.C.P., Ed.

Fellow of British Gyn. Society, Victoria, B.C.

MRS. X., aged 39, of low grade of intelligence, family history suggestive of mental deficiency, her two brothers being considered somewhat "green." She was the mother of two children, last confinement attended by midwife and very tedious. Some days after a medical man was called and ordered a creolin douche, which gave her great pain. Each douche was followed by from one to three hours of wild delirium. She would leave the house, when not carefully watched, and wander towards the city. This condition continued, with slight interruption, for three weeks, when I was called to see her. The patient was apathetic, careless as to domestic duties, yet apparently devoted to her child.

Examination showed no abnormality, save the uterus slightly sub-involuted; pulse, temperature and urine normal. The treatment was free catharsis and hot douches; withdrew baby from the breast and gave tonics with plenty of food, frequently administered. Patient was better for a few days, when she relapsed into a semi-melancholic condition and complained of intense headache. Fearing that there might be some abnormality of the endometrium, I curetted, finding a piece of placenta no larger than a bean. Her recovery was complete and she has continued in excellent mental and physical health ever since.

I am aware that, to the superficial reader, there is nothing startling in this brief history of a not very extraordinary case, only a mild case of puerperal insanity, in a patient with a decided predisposition, mental and physical health following upon a simple curetting. I do not advance the opinion that the operation was the means by which the insanity was relieved, or that the combined treatment was responsible for it. We speak with less degrees of certainty as our vista widens.

As yet we do not fully know the psychic and physical interrelations. It is ours, for some time yet, to observe and deduce, with the hope that some day we may speak with a greater degree of certainty regarding matters which, as yet, are largely undecided.

There is one lesson that many of our number have yet to learn, although it has been so often repeated, viz., that we must look at all forms of insanity through the physical medium. We must remember that the abnormal psychic manifestations, called insanity, depend upon some physical or chemical change in the elements of the nervous system,

and that, in its turn, is the result of some pathological condition or process, which may be active in any part of the system. Upon the general practitioner this conception of insanity lays new responsibilities, for it is he who first meets with these cases. It is his duty to consider the patient presenting symptoms of insanity, as one suffering from physical disease, and to proceed, as with cases in which no mental abnormality is present, to determine the nature and location of the lesion, and to resort to such means as he may deem necessary to restore the abnormal conditions and to remove the diseased structure. In many cases the cause will elude his skill, and in others the restraint of asylum life may be necessary, but in many cases the cause is not clouded in such a degree of obscurity as we had formerly thought and often is comparatively easily determined. Although we cannot say that a given pathological condition is causative, we know that not infrequently the removal of local disease is followed by restoration of the mental faculties, and the nearer the disease lies to the more sensitive sympathetic centres, the greater the probability that it is at least a factor in the production of mental derangement, for we must remember that insanity may be the result of the focusing of many morbid influences.

It is not expected that the general practitioner have the *tactus eruditus* of the specialist, but we do presume that he is able to diagnose, if not treat, the more frequent lesions, and should the case present unusual conditions, that he have the sincerity to associate himself with someone of greater experience than himself in these cases. If systematic examination were made of every case presenting indications of insanity, and appropriate treatment given,—treatment that would give a sane patient suffering from the same physical disease, our asylum commitments would appreciably diminish.

Of sixty cases of puerperal insanity, admitted into Royal Edinburgh Asylum, 43 had a temperature above 99, and 23 were above 100. Dr. Clouston says that in no other form of insanity is such a temperature result found. The causes of the rise of temperature was given as; "acute brain excitement," "inflammation of the womb," "meningeal inflammation," etc.

Dr. Clouston states that there is no doubt that the chief cause of death in cases that have been properly fed is septicæmia, and that there may be septicæmia in a puerperal case, with purulent peritonitis, metritis and phlebitis, and yet the patient never complain of local pain; and even on pressure there may be no uterine or peritoneal tenderness.

One point of very great importance regarding insanity and on upon which very many of our foremost authorities agree, is that "the presence of some physical disease, apart from the brain, the brain appears to take on a degenerative process, which is irreparable when the abnormal action has been present for some time with a permanency of the insanity, too often uninfluenced by the restoration of the afflicted organs."

Referring to the exciting cause of this form of insanity, Dr. Clouston say; that "the great physiological cataclysm itself, the pains of labour, the mental excitement and stress, the loss of blood, sepsis with the open blood vessels liable to absorb every particle, the sudden diversion of the stream of vital energy from the womb to the mammae, the reflex dis-

turbances to the brain from the reproductive organs; these, together or separately, are the causes that, acting on an unstable brain hereditarily, set up one of the most violent storms that the physician has to treat.

Dr. Byron Robinson, in speaking of the intimate connection between the uterus and the whole organism, says; "The organ which has the most intimate connection with the cerebro-spinal axis, the abdominal and pelvic brain is the uterus. This intimate nervous connection of the uterus with the nervous system increases with the ascending scale of animal life. So far as I can observe, the uterus is connected with the abdominal brain by twenty or thirty strong nerve strands."

Traumatism of the cervix, especially rupture, is without doubt one of the great causes which combine to disturb the psychic harmony, and in this connection Dr. Byron Robinson says; Irritation from this, (ruptured cervix), is transmitted over the hypogastric plexus to the abdominal brain, where it is reorganized. It should be remembered that any irritation, (force vibration) will travel on the lines of least resistance; and in the direction of least from the abdominal brain in toward the organ having the greatest number of nerve strands. The irritation, re-organized, will flash out on all the plexuses. Reaching the liver, it will disturb the hepatic rhythm, causing an over production, an under production or an irregular production, of bile, glycogen and urea, and finally the functions of the liver suffer impairment. Suppose we follow this same irritation to the digestive tract.

At Auerbach's plexus it will cause colic, lethargy, or fitful peristalsis, and at the plexus of Billroth-Meissner, it will induce diarrhoea, constipation, or development of gases—fermentation. These disturbances, after a painful progress of from six months to two years, culminate in indigestion. Then comes malnutrition, which results from long-continued indigestion. The third stage is anaemia from malnutrition. The fourth stage is neurosis; the ganglia have been long bathed in waste-laden blood. Finally psychosis may arise. Hence endometritis may induce; (a) indigestion, (b) malnutrition, (c) anaemia, (d) neurosis, and (e) psychosis.

The evidence adduced from this case and from the conclusion of Dr. Clouston goes to caution us first not to consider that the development of puerperal insanity marks the limit of our production and to consign these cases to state care; but, knowing that disordered mentality means abnormal physical action to investigate closely the condition especially of these organs which during the preceding period have been exposed to traumatism and to septic invasion, and to leave undone nothing which our fruitful therapeutics can suggest, until these invasions are exhausted and not until then, should such cases be sent to the asylum.

ORTHOPEDIC TREATMENT OF DEFORMITIES AND DISABILITIES RESULTING FROM DISEASES OF THE NERVOUS SYSTEM . . . SPECIAL REFERENCE TO TENDON TRANSPOSITION.*

By B. E. MCKENZIE, B.A., M.D., Toronto.

OF the various nerve affections which cause disability and deformity, acute anterior poliomyelitis is the most common. This affection is marked by atrophy of the muscles involved, by altered electrical reactions, diminution or loss of the reflexes, and by a peculiar distribution of the paralysis according to function rather than anatomy.

JOINT EQUILIBRIUM.

The normal condition of the joint implies that the muscles exercising control shall be able to maintain an even balance. If at the knee the quadriceps femoris be completely paralyzed or reduced in power the antagonistic group, the ham strings, will so disturb the balance as to make flexion easy and habitual while complete extension will be difficult or impossible. In a similar way any one of the various deformities which occur at the foot may be produced.

MECHANICAL TREATMENT.

Until comparatively recent years the only aid given to these patients was afforded through the use of appliances generally consisting of steel braces strapped about the legs and attached to the boots. Both in books and in practice even at the present time this method of dealing with weakened limbs is far too common. There are many of these patients who are suffering from disability arising from various forms of paralysis who do not know the means that can be employed, through the help of modern surgery, for their relief. Some of the most brilliant and successful results are obtained in the management of these cases.

The constant use of braces and straps tends to prevent a development which might otherwise be induced. Braces cannot be given up entirely. Wisely employed they may be of great service, but they are employed not infrequently in cases where other means could be employed to better advantage and sometimes where the patient would be better without any treatment.

INFANTILE PARALYSIS.

There is another peculiarity of infantile paralysis which is worthy of note in this connection. It has been said above that the distribution of the paralysis is according to function rather than anatomy. It is also interesting to notice that the lower extremity is affected much more frequently than the upper. Both of these facts are of great importance in treatment. The differences of function between the upper and lower extremity is very marked. In order that the hand and arm may be of

* Abstract of the paper read at the recent meeting of the Canadian Medical Association in Winnipeg.

service it is necessary that the fingers should be capable of considerable dexterity. They need the deftness which can finger a musical instrument, tie a knot, grasp a handle, hold and use a needle, etc. The lower extremity serves comparatively well its purpose if only it can be a secure and substantial post to bear the body weight. Its comparative coarseness of function makes it more amenable to treatment in the manner which is to be referred to in this paper.

Instances of the functional rather than the anatomical distribution of the paralysis are as follows: When the quadriceps femoris is paralyzed the sartorius though having the same nerve supply generally escapes, and the tibialis anticus, though it have a different nerve supply, is generally associated with the quadriceps in the paralytic disability. It will be noticed that in walking the quadriceps femoris and tibialis anticus act together and are thus associated in function. In the upper extremity the supinator longus generally escapes in spite of the fact that all the extensor muscles of the forearm are paralyzed and though these are supplied by the same nerve. The supinator longus, however, is generally affected along with the deltoid biceps and brachialis anticus with which it is associated functionally.

MUSCLE TRANSPOSITION.

The muscles causing movement at a joint should maintain an even balance among themselves but in the case where one or more groups are paralyzed there is a lack of control and inability to move the limbs in certain directions. No surgical intervention can add to the sum total of the power manifested by the muscles producing movement at, for example, the ankle, but a readjustment may be made so as to establish a more even balance. The effect of the peronei when unopposed is positively harmful and if nothing better can be done the tendons should be cut so as to permit correction of the deformity. This procedure would, however, lessen the sum total of power possessed by the muscles at the ankle, hence a transposition of the peronei is made. The tendo Achillis having been freely exposed and the peronei tendons having been cut subcutaneously in front of and below the external malleolus these latter are reached at a point where they are close to the incision made over the tendo Achillis and are drawn from their sheath. The proximal segments of the peronei are now inserted into the tendo Achillis as close as possible to the os calcis. It is generally advisable to shorten the tendo Achillis before the peronei tendons are sutured.

Circumstances having permitted the writer to cut down upon such a graft after a lapse of some months it was exceedingly gratifying to find the most satisfactory union.

After healing it will be noticed that the power of the active, unparalyzed peronei, which before were harmful in their action, is transposed so as to permit the muscles to pull upward at the insertion of the tendo Achillis. Thus, without lessening the sum total of power manifested at the joint, its action has been so rearranged as to establish a better balance of the foot and to change its position so as to bring it more directly and effectively under the body weight, thereby improving its function.

A similar plan of procedure may be adopted when other groups of muscles are paralyzed or paretic at the ankle. At the knee the operation called for when the quadriceps femoris is paralyzed and the sartorius unaffected is to remove the sartorius from its insertion at the inner border of the leg and suture it into the aponeurotic tissue above the patella.

An experience dating from Dec., 1892, up till the present and covering a large number of cases warrant me in speaking of this as being not a doubtful but an assuredly successful operation.

Before deciding what tendons to transpose and where to insert them each case should be studied carefully with a view to determine exactly the effect produced by the action of each muscle both at its original and its new insertion.

The paper was summarized as follows:

1. Many patients who seek the advice of the orthopedic surgeon are suffering from some form of nervous affection—usually chronic.

2. When deformity exists it should be corrected.

3. When there is a lack of balance at a joint an effort should be made to restore equilibrium.

4. Tendon transposition is an effective means to secure this end in selected cases.

5. Braces and splints should not be employed except in meeting the clearest indications.

6. Mechanical means wisely employed may do much to supplement the defective lower extremity.

7. Arthrodesis of a "flail" joint is often better than mechanical aid.

8. The gymnasium is a powerful means of enforcing the discipline which is essential to successful treatment of so many neuroses.

9. Amputation should seldom or never be done simply because of paralysis of the lower extremity.

A CASE OF OPIUM POISONING.*

BY DR. F. W. MARLOW, M.D., C.M.

Member of the House Staff of St. Michael's Hospital for year 1900-1901.

THE patient E. S. male, age 38, was brought by the ambulance to St. Michael's Hospital in an unconscious condition at 10.30 a. m. Friday, Oct. 5th. He was taken to the emergency ward.

Relaxation of the extremities was complete. The respirations were slow and shallow; the pulse fairly good. The temperature per rectum was 96 1/5. There was slight cyanosis of the face and ears. The pupils were equal and contracted almost to a pin-point. Sensation in the cornea was absent. The breath exhaled gave a distinct odor of some preparation of opium.

The diagnosis was readily made out to the opium poisoning and it was afterwards learned that the patient had taken an ounce and three-

*Read at a meeting of the Toronto Post-graduate Society.

quarters of a mixture containing two ounces of laudanum and one ounce of paregoric.

Respirations ceased in less than ten minutes after admission. Treatment was begun at once and the detail of it with the effects produced was somewhat as follows,—

The stomach was washed out thoroughly and the washings gave the characteristic odor of the poison. Atropine gr, 1/100 was given hypodermically. The body was stripped and wet towels were applied in a lively manner to the legs and trunk. Artificial respiration was commenced as soon as the breathing ceased.

Cyanosis of the face, ears, hands and feet was marked at times and at other times almost completely disappeared. The pulse remained fairly good, varying in rate between 90 and 120.

Permanganate of potash solution was injected hypodermically and was also introduced into the stomach by means of the tube. Inhalations of oxygen were given with the artificial inspirations and seemed to lessen the cyanosis temporarily. Blood was depleted from a vein of one of the lower limbs to the extent of ten ounces and a subcutaneous transfusion of normal saline solution to the extent of one hundred ounces was administered. The urine was drawn off by a catheter. An enema of strong black tea was given and was partly retained. The tongue was held forward and the artificial respiration was kept up continually.

At 2. 30. p. m. the patient was taken to the battery room, his condition being apparently unimproved except that the pupils were not quite so contracted as they had been. The stomach was washed out again, this time with a weak solution of permanganate of potash, and afterwards strong black coffee was introduced into the stomach. A mixed current of electricity was applied with interruptions, with one electrode on the foot and the other applied to different parts of the trunk. At 5.00 p. m. the stomach was again washed out and this time with normal saline solution and afterwards one and a half pints of strong black coffee were introduced.

At 6.30 p. m. the pupils which were a little more dilated began to respond slightly to light and sensation began to return to the cornea, there being a slight movement of the eyelids when the cornea was touched. The limbs began to show signs of resistance, and the cyanosis was much lessened. At about 6.45 p. m. the patient opened his eyes of his own accord and gave utterance to the words "I am dying" although he was not yet breathing for himself.

The electrical stimulation was kept up and absorbent cotton slightly moistened with strong ammonia was held to the nose.

At about 7. 00 p. m. the patient began to show signs of breathing and the artificial respiration was interrupted in order to see what the patient would do. At 7 15 p. m. he was breathing at the rate of five respirations per minute. The rate increased gradually and the artificial respiration was discontinued at 7. 30. p. m. which was almost nine hours from the time at which it was commenced. The electrical stimulation was discontinued at this time.

The stomach was washed out again with normal saline solution and there was no trace of the last coffee introduced. More coffee was in-

roduced. Vomiting occurred and again coffee was introduced and was retained.

Consciousness gradually returned and at 10. 00 p. m. the patient was fairly rational ; and at 11.00 p. m. was able to walk about with a little assistance. He was very drowsy and would go to sleep rapidly if left alone.

He was taken to bed and kept aroused until morning. Sulphate of magnesia was given in repeated doses until several free evacuations occurred. Eneinata were also given and the urine was drawn off frequently. Coffee was given from time to time and was readily swallowed. Vomiting was frequent until morning.

In the morning the respirations and temperature were normal and the pulse about one hundred. Broths, egg-noggs, milk and water were given freely, and in addition to these were given stimulants in the form of strychnine (hypodermically) and whiskey by the mouth.

The patient was allowed to sleep on Saturday, but was very restless most of the time.

On Sunday morning he was a little brighter and was resting comfortably. The temperature was slightly elevated, the pulse rate about one hundred and twenty and the respirations normal. There were no indications of the presence of pneumonia.

At 12.30 p.m. the patient became delirious and at about 2 p.m. lapsed into unconsciousness. The respirations became rapid and shallow and the pulse very weak, the rate being about one hundred and fifty. An additional hypodermic injection of strychnine gr. 1/30 was given and he rallied slightly and again became conscious for a little time.

An attempt was made to draw off the urine as before with a soft rubber catheter, but it could not be passed. A hard catheter was passed, but no urine could be obtained.

Almost immediately afterwards the patient became rapidly cyanosed, the radial pulse was lost and the heart ceased to beat before respiration ceased, making it evident that the immediate cause of death was failure of the heart, which had done its work so well all the time the artificial respiration was being kept up.

Two peculiar phenomena were observed and are worthy of mention. As soon as the hard catheter was withdrawn after the last attempt to draw off the urine, there occurred an emission which was apparently seminal. Also immediately following death there occurred a peculiar twitching and tremor of the hands and feet, which continued for about five minutes.

Death occurred at 2.30 p.m. on Sunday, October 7th, the patient having been in the hospital fifty-two hours.

No post-mortem examination was made.

POST TYPHOIDAL ULCERATION AND ABDUCTOR PARESIS OF THE LARYNX.

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EXAMINATION of the larynx during the course of an attack of typhoid fever is seldom made, partly because of the slight character of the laryngeal symptoms, but chiefly because of the difficulty of making a laryngoscopic examination, while the patient is compelled to lie recumbent.

The record of a case of ulceration of the vocal cord, attended by paresis of the abductors, is therefore worthy of mention, especially as the lesion itself is rare among the recorded typhoidal lesions of the larynx.

I am indebted to Dr. McKibbon for the following notes:

F. S. Aet. 41. Glass-blower, married. Father died at eighty, of bladder trouble, mother at seventy-eight, of pneumonia, a brother at seventeen, of a tumour in the left side of the throat, occurring during convalescence from typhoid, the remainder of the brothers and sisters are all living and in good health. Has been always a healthy man, and has followed his occupation for twenty years. Height 6 ft. 3 in., weight 170 lbs. No history of syphilis. Consulted me on March 23rd, on account of run down condition. Quit work on April 6th, with symptoms resembling la grippe. On the 15th, took to his bed with symptoms of typhoid, and temperature of 103°, and followed a characteristic course for four weeks. On the 6th of May, symptoms of laryngeal irritation developed, lasting three or four hours, and consisting of hoarseness, and a tendency to clear the throat. These attacks occurred twice a week, at night time generally. About this time also pneumonic symptoms developed in the upper lobes of both lungs. It was thought that this might have been tubercular, but examination of the sputum was negative, while the blood gave the typhoid reaction. The temperature remained high throughout, becoming normal on the 20th of June. For the next two weeks convalescence proceeded steadily. Every few days a spell of distressed breathing would occur, requiring medicated steam inhalations to give relief. Throughout the whole attack the patient exhibited a neurotic temperament, and the attacks of dyspnoea were markedly periodic. The temperature remained normal till the 9th of June, and immediately subsequent to the operation registered 100°.

I was called by Dr. McKibbon to see patient on Sunday, June 2nd. Found him lying prone, respirations increased slightly, expression anxious, voice hoarse. On palpation the neck revealed nothing, neither tenderness, swelling, or fixidity. The patient was able to sit up without increase of the dyspnoea, but the tracheal tugging was marked. There was nothing noticeable in the mouth or oro-pharynx, except the anaemia, which was decided, and extended to the parts bounding the laryngeal vestibule. The vocal cords were almost in contact and the patient seemed

unable to abduct them except very partially. The cords themselves were congested, and appeared swollen and somewhat nodulated, the swelling being chiefly confined to the inferior surface of the cords, the infra cordal portion of the larynx, appearing to be bounded on either side by a rigid wall, extending diagonally outwards from the free edge of each cord. The left cord was notched towards its posterior extremity, the notch being filled by a pure white slough, and measuring about 6 m.m. in each direction. The edges of the notch were congested, uneven, and undermined.

The examination produced an expulsive cough, which cocaine allayed, and apart from this there was no difficulty in making the examination.

The false vocal cords appeared unaffected except by the anaemia. The right arytenoid was swollen on the external surface. The patient was nervous and weak, and the examination brought on some nervous excitement, which was followed by an attack of dyspnoea. The patient was able to lie down however. Directions were given to continue the steam inhalations. A menthol and cocaine oily spray internally, and cold packing externally were prescribed. Did not see patient again till the following Sunday, June 9th. The breathing had been much relieved for four or five days, since then gradually more embarrassed. The previous evening there had been a very bad attack of dyspnoea, and the patient was much exhausted. The examination which was made again without any difficulty, presented a similar picture to that recorded above, with one exception, that a distinct crevice had appeared between the slough and the cord. Abduction was more deficient than formerly, and the rima glottidis was simply a narrow slit. Tracheotomy was advised, should the breathing continue embarrassed. At 3 p.m. the same day the condition became so much worse that unconsciousness set in, and when the patient arrived at the hospital, three hours later, he was insensible, and practically moribund. The trachea was opened in the high position, without waiting for an anaesthetic, and artificial respiration practiced. After breathing was restored, the tube was removed, and an attempt was made to obtain a view of the vocal cords from below. This was not entirely satisfactory, there was no evidence, however, of either ulceration or tumour formation below the cords, the walls of the infra-larynx being smooth, and sharply leaning toward each other. The patient was kept in a tent bed, filled with steam, and vaped lime-water, and made a steady improvement, being discharged on the 21st day. Repeated examinations of the secretions from the tube were made with a negative result, nor was any adequate explanation forthcoming for the rise of temperature between the 12th and 14th days. The noisy respirations prevented any satisfactory examination of the lungs.

On the 10th of July the patient was examined in my office, and the following notes were taken :

Weight, 150 lbs, steadily increasing. When the tube is closed, the voice is almost completely restored, no difficulty in swallowing, no sensation of smothering, voice not easily fatigued. The nose is freely patent in both chambers, there is no anaemia, or lesion on the septum; the naso-pharynx is roomy, the lining membrane thin, and very closely adherent, with some congestion in the middle line close to the choanae.

The mucous membrane on either side of the septum, is markedly puffed about the middle. In the mouth and pharynx, the soft palate is anaemic. The isthmus faucium is capacious, the membrane of the posterior wall is thin and pale, and streaked with a muco-purulent secretion from the naso-pharynx.

Larynx: Epiglottis pale at the edge, the right half is folded back upon itself so that it appears as a line projected directly backwards from the central point of the apex, and thus partially conceals the cavity of the larynx. The right arytenoid is normal in outline, but somewhat anaemic, while the left is so placed as to lie in front of the right, and its contour is somewhat blurred by swelling of the internal surface, the capitulum of Santorini however, being plainly seen. There is no abrasion of the surface, and the color is normal, or nearly so. The vocal cords:— Both are slightly thickened, of a reddish pink color; the vocal process is plain in the right, but cannot be seen in the left, being probably hidden by the swollen, and misplaced arytenoids. The edges are even, and without abrasion. In phonation, the cords meet evenly, and exactly, but the right arytenoid appears to have the greater excursion, while the left has almost none.

The parts of the larynx below the vocal cords, the sinus pyriformis and the ventricular bands, etc., present no abnormality.

On July 17th. Weight, 160 lbs. Swelling of the left arytenoid lessened. Removed tracheotomy tube.

July 29th. Condition of throat as above, improvement continued in every direction, voice still a little foggy, tracheotomy wound healed, patient dismissed to the country.

In examining the literature of this interesting subject, the most satisfactory remarks are those of Friedrich, (1), who "divides the laryngeal phenomena occurring in typhoid fever into three main groups—Catarrhal conditions, ulcerations and patsies; oedema and perichondritis being regarded as accompaniments or complications of one of the three main divisions, and quotes Luning, as to the percentage of frequency of the occurrence of these phenomena—from clinical statistics 3 per cent, and from postmortem examination, 17 per cent."

He further states that, "clinically speaking, simple catarrh, and superficial ulceration, are the complications most frequently observed while deep ulcerations which lead to oedema, and perichondritis, or which when extensive present the so called diphtheritic form (laryngotyphus) are much rarer."

The pharyngeal and laryngeal mucous membrane, is often attacked by catarrh in the beginning of the disease—characterized by intense redness while the swelling of the mucous membrane is comparatively slight." Superficial ulcerations occur from necrosis of circumscribed portions of the swollen mucous membrane, and manifest a preference for certain regions—the faucial pillars, the free border or laryngeal surface of the epiglottis, the aryepiglottic folds, and occasionally below the glottis; they are rarely seen on the vocal cords." "At first there is diffuse catarrh, the membrane is darker in color, and slightly swollen in the areas mentioned; the epithelium breaks down and exposes a small

shallow ulcer, with a yellowish floor resembling herpes, these coalesce to form larger quite superficial ulcers, with clearly defined edges, without redness, or swelling of the adjacent parts."

Friedrich denies that these are the effect of decubitus, as there is no reason why, if we accept such an etiology, simple ulcers should not occur in any other disease attended with the same degree of prostration; or from contact and direct infection with typhoid bacillus, since the latter has only rarely been found in them. But believes that they are the result of a nutritive disturbance in the membrane, connected with the general typhoidal infection." They are benign, and heal without leaving a scar."

Friedrich also describes a class of case where the ulcer extends to the deeper structures, as the result of a mixed infection. These Eppinger styles "mycotic necrotic ulcers"; they invade the deeper structures, and eventually destroy the perichondrium and cartilage and are to be distinguished from a diffuse typhoid infiltration in every way analogous to the typhoid lesion in the intestinal follicles' and originate in circumscribed areas containing adenoid tissue. These infiltrations lead to ulceration, the ulcers being distinguished from the former group by the hardness and swelling of their under mined edges." "The healing of these ulcers leaves defects and adhesions."

"Paralysis of laryngeal muscles occur chiefly in the stage of convalescence and present no characteristic type. The abductors must be regarded as most frequently affected." "It is a peripheral paralysis, and the prognosis as to recovery is favorable."

Lockart (2) divides the lesions into two classes—specific and non-specific according as they are the direct effect of the typhoid poison, or due to secondary bacteria, decubitus or diphtheria." In the specific lesion the adenoid areas are alone involved, in the sinus pyriformis, base of the arytenoids, ventricle of Morgagni, the anterior commissure, the inter-arytenoid space, the false vocal cords, and the lower part of the epiglottis." The process in these structures is identical with that in Peyer's patches." In the non-specific form, the lesions are catarrh, erosions, and perichondritis. The resultant scar persists.

Kobler, (3) calls attention to the existence of a characteristic affection of the epiglottis in typhoid." So long as the infiltration of the epiglottis exists the typhoid process is active."

McBride, (4) consider that the most "characteristic condition is infiltration leading to ulceration, and the parts most liable, are the under-surface of the arytenoids, and marked destructive changes may occur without corresponding subjective sensations." He also quotes Bergengruen, "that the typhoid bacillus cannot produce suppuration, as proved by the experiments of Klemm, but that it paves the way for attacks of the staphylococcus pyogenes aureus."

Lennox Brown, (5) expresses the view that, "laryngitis occurs as a late—probably also as a secondary manifestation of typhoid fever. In many cases the lesions depend upon the influence of decubitus. There is a strong tendency to active ulcerations, these principally occurring upon the ventricular bands. The lymphoid elements of the larynx are not only

especially prone to be attacked, but they share the same morbid changes which occur in Peyer's patches."

Shurly, (6) considers "parssis of the adductor muscles the usual form. The cause is either a neuritis, temporary cerebral lesion affecting the nutrition of the ninth nerve, or pressure from some adenopathy."

J. H. Hutchison, (7) concludes that "catarrhal or diphtheritic inflammation, and some times ulceration, are most commonly found in the posterior wall of the larynx, and may involve the vocal cords."

Watson Williams, (8) records one case of "acute laryngeal symptoms with dyspnoea, and extensive ulceration,"; and records a second case with "the posterior third of both cords, and the anterior surface of each arytenoid ulcerated."

He also quotes the opinion of Lucatello, that "the laryngeal lesions of typhoid are catarrh, infiltrations, ulcerations, diphtheritic, perichondritis, and paralysis—exclusively attributable to the specific microbe of typhoid." William's suggests that this may be an explanation of a possibility of typhoid being infectious.

The case which I have recorded, does not correspond exactly, with any of the above descriptions, for the vocal cord bore the brunt of the affection. It is to be especially noticed that there was no pain, no hæmorrhage, no bright congestion of the pharyngeal and laryngeal membranes, no perichondritis, and no scar remaining.

The mal-positions noted in the detailed examinations, were present prior to the onset of the fever, at least there were no lesions present at any time, which would account for them, nor were they paralytic in appearance.

If the immobility of the cords were due to paralysis, the paresis was confined to the abductors, but the appearance may have been due simply to the swelling, and rigidity of the cords, and sub-cordal structures. It has entirely disappeared, and the voice, although gruff, is described by the wife to be quite as good as at any time prior to the attack.

The location of the ulceration on the true vocal cord is evidently one of the rarest forms of typhoid involvement.

There are several cases where tracheotomy was performed but in most of these it would appear that marked perichondritis was present.

BIBLIOGRAPHY.

- (1) Rhinology, Layngology and Otology, and their significance in General Medicine. Translated, by Curtis.
- (2) New York Medical Journal.
- (3) Centralblatt, f. innere Med., Leipsig.
- (4) Diseases of the Throat, Nose and Ear, 2nd Edition.
- (5) Diseases of the Throat and Nose, 5th Edition.
- (6) Diseases of the Nose and Throat.
- (7) Pepper's System of Medicine.
- (8) Medical Annual, 1896.

TREATMENT OF ABORTION.*

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THE most frequent disturbance of pregnancy is one of the most interesting, and an event occurring once in every ten pregnancies demands close attention. The pronounced and often long-continued hemorrhages and the not infrequent infection of themselves produce serious disturbances of health, while the numerous chronic diseases which result from imperfect involution lend to abortion a peculiar importance. The limitation of the term abortion to the period preceding fetal viability is very convenient, and the treatment up to the sixteenth week can be satisfactorily standardized, as there is a happy coincidence in the arbitrary and pathological boundaries. Primarily every woman subject to conception must be regarded as aborting when hemorrhage occurs after one period is passed.

The treatment of abortion is best divided into general prophylaxis and the measures indicated respectively in threatened, inevitable, and incomplete abortion.

Prophylaxis is highly important and is addressed to the cause of habitual abortion, which may be syphilis, chlorosis, incipient tuberculosis, chronic inflammatory conditions of the genitalia, or malpositions of the uterus. Appropriate treatment of these diseases before pregnancy, with regulation of the bodily functions during pregnancy, will accomplish much, while the administration of the sedatives (opium, bromide, chloral, etc.), with mental and bodily rest at the critical period, will frequently enable the woman to go to term.

The consequences of an abortion sometimes predispose to another. Thus, subinvolution is common after abortion, for the contractions of the uterus are less powerful, the muscular tissue less perfectly developed and less responsive to irritation. The customary irritation is also diminished, since the stimulation arising from lactation and nursing is absent. The patient usually rises too soon, and the consequent pelvic congestion prevents proper uterine involution. Anemia may have a like result. As a prophylactic measure the uterus should be stimulated to contract by means of ergot for a reasonable period after an abortion, and hot douches may be added, provided they can be given properly. The patient should remain in bed much longer than after a normal labor. This is of extreme importance and should be enforced until the danger of subinvolution is passed.

The occurrence of abortion is marked by hemorrhage of some degree, accompanied by heaviness and abnormal sensations in the lower abdomen which are not necessarily painful. The blood is usually bright red, persistent, and free from clots. The os externum is found only partially

* Obstetrical Journal.

opened, the cervix closed or only slightly dilated; contractions are rarely present and typical pains are absent. This condition is recognized as "threatened abortion."

If the hemorrhage is due to disease which will be intensified by pregnancy or cause danger to the mother (tuberculosis or valvular heart disease), or the woman is anemic from repeated hemorrhages, the abortion should be accelerated if the fetus is dead. In making a diagnosis of fetal death some reliance must be placed upon the history of a previously expelled dead ovum and the presence of an intermittent discharge of fresh or brownish blood. Add to this the physiological signs of a hard, round uterus which, on repeated examination, does not show signs of growth, does not correspond in size to the period of pregnancy, exhibits loss of tension, and the diagnosis is reasonably certain.

If the cause of the abortion is not clear and the mother's life is not endangered, the ovum should be preserved, if possible. Besides the use of sedatives, the woman should remain in bed for two or three days after the cessation of hemorrhage and return to it if the symptoms reappear. When the cervix is closed and hemorrhage is so severe as to threaten the life of the mother, the indications are to stop the bleeding and empty the uterus. The tampon, uterine if possible, vaginal always, will accomplish the first and usually the second. Tightly applied, it may be left *in situ* safely for from twelve to twenty hours, and can be renewed if hemorrhage persists. Frequently the contents of the uterus will be found on the tampon when it is removed. A careful examination of the expelled particles must be made to determine whether the ovum is complete. Occasionally the egg is thrown off with the membranes intact, but usually only a mass of decidua mixed with membranes can be found.

Where the abortion is inevitable, the os is dilated, the cervix patulous, and the ovum near the cervix. Hemorrhage is persistent, increasing in quantity, and clotted. The unruptured sac, detached from the uterine wall, can often be pulled into the vagina with the finger: while even if the sac ruptures, the ovular remnants usually can be easily removed because of their low situation in the cervical canal. The entire egg, when released from its uterine attachments, is sometimes expelled by compressing the uterus between an external hand and two fingers in the anterior and posterior fornix (Hönig). When the egg lies wholly or largely in the uterine cavity it is much more difficult to remove, but under narcosis the finger can be carried through the canal and the mucous membrane efficiently cleared. Here also, in the absence of contra-indications, the tampon can be employed, and after twelve or eighteen hours the uterine contents will be evacuated or the os be found sufficiently patulous for digital or instrumental curettement of the cavity.

In pregnancy up to the third month it is often doubtful whether the egg has escaped, but in all cases where the phenomena of abortion have not lasted a long time the cervical walls are soft, the os internum patulous for the finger, and exploration will give the desired information.

Early in pregnancy the decidua is most important in an abortion, the membranes are less so, and the fetus is quite negligible; but with formation of the placenta the latter assumes the greatest importance, until in the latter half of pregnancy the fetus supplants it.

When the cervix is partly open and hemorrhage present the abortion is incomplete; and if the bleeding is severe, prompt evacuation of the uterus is imperative. Anesthesia is usually required and chloroform is to be preferred. The entire hand can be introduced into the vagina, if necessary, while the external hand grasps the fundus uteri and crowds it down over the index and, if possible, the middle finger of the internal hand. The ovum is separated from the uterine wall with the fingers, the uterine cavity carefully examined and then washed out with a two per cent. solution of lysol. The digital operation is more satisfactory and in a majority of the cases as easily performed as the instrumental.

When the rigidity of the abdominal walls does not permit the uterus to be forced down over the internal finger by the outside hand, when the fundus lies too high to be successfully reached by the finger, or when the abortion is too early to permit sufficient dilatation for the introduction of the finger, a skilful operator will obtain equally satisfactory results by forcibly dilating the canal with the Hegar or Goodell dilators. The danger of lacerating the cervix with these instruments is very slight. The cervix is pulled down and steadied by means of a curved four-toothed tenaculum forceps during the preliminary dilatation and also while using the curette. The sharp curette is desirable in early abortions. It is very important in these cases to examine the uterine cavity with the finger after the instrumental curettement, to determine the thoroughness of the operation. After the sixth month the sharp curette becomes dangerous, for the walls of the uterus are frequently so softened that the curette may scrape through to the peritoneum or be pushed through the fundus.

The normal uterus and vagina will drain very satisfactorily if let alone; hence, unless there is severe hemorrhage it is better after curettement to leave both the uterus and vagina free from gauze packing. The uterus is free to contract, the serous and other discharges flow away unhampered, and the chances of infection are greatly diminished.

The use of ergot to hasten the abortion by stimulating the contractions is very generally advised, but should be unhesitatingly condemned. The tetanic contractions induced by ergot are not favorable to the satisfactory emptying of the uterine cavity. The tampon accomplishes the same result more efficiently and certainly and is safe, while ergot is unreliable and dangerous. The use of ergot should be reserved for cases where hemorrhages threaten after the complete evacuation of the uterus, and cases of subinvolution.

The tampon properly applied is an invaluable aid in abortions. It stimulates uterine contraction, dilates the os, and stops hemorrhage both mechanically and dynamically, besides maintaining a condition of surgical cleanliness. The clot which forms on top of the tampon mechanically causes the separation of the ovum in a very natural and satisfactory way. The principal contraindication to the use of the tampon is the presence of sepsis. After the sixth month, also, the uterus is so large that it can contain a large amount of blood, and here the vaginal tampon should only be employed in association with uterine packing. The tampon is applied with the patient on the table or in the cross-bed position. The

pubic hair is clipped. The external genitals are scrubbed with green soap and washed with lysol solution two per cent, followed by 1:4000 bichloride. Patient catheterized. Vagina washed with green soap and hot water, followed by lysol douche two per cent. The hands and instruments prepared as for a laparotomy. The portio vaginalis should be entirely surrounded by gauze (or cotton pledgets) introduced by dressing forceps or fingers under the control of the sight, while the perineum is depressed with a Sims speculum. Then on the broad base made by the pledgets and the os the vagina is gradually filled to the vulva and a binder applied. Unless the vagina is packed tightly enough the tampon fails in its mission, and if too tight it gives unnecessary discomfort to the woman. The temperature is taken every few hours, and a rise of 1.5° F. indicates the removal of the tampon. The necessity for asepsis in all cases must be reiterated; the fact that pregnancy and labor are physiological processes does not free the woman from danger of infection.

The introduction of substances from without constitutes a more serious menace to the woman than any evil she may develop unaided, hence it is desirable to avoid unnecessary interference of every kind, including the douche. The time for the douche is before and after curettement, to cleanse the canal and wash out any loose detritus from the uterus and vagina, and to provide for the elimination of germs introduced from without at the time of the operation; but here its function ends. It is unnecessary, useless, and injurious, both in normal labor and abortion, as the experiments of Krönig (confirmed by Menge, Döderlein, and Williams) have shown.

The germs in the vagina are normally in a state of attenuated virulence, being rendered so by the peculiar acid secretion of the vaginal bacillus. Wadsworth has shown that pathogenic germs only exceptionally persist in the vagina throughout pregnancy and labor, and where present in severe cases they persisted after repeated douching in 1:5000 bichloride. Krönig has also shown that the vagina requires more time to eliminate pathogenic organisms after douching than without. In normal cases the vaginal secretion renders the organisms inert in twenty hours; after douching thirty-six to forty-eight hours are required. The douche simply removes the protective secretion and gives the organisms a better chance to thrive. Furthermore, the attempt to sterilize the vagina by douching alone is no more reasonable than to attempt to sterilize the hands by allowing a few quarts of hot antiseptic solution to run over them.

In cases of abortion where sepsis is already present, as shown by the elevation of temperature and rapid pulse, or by a rapid pulse while the temperature remains near the normal, active interference is definitely and urgently indicated. The uterus should be curetted at once and the cavity thoroughly washed out with a hot one per cent lysol solution (bichloride to be avoided). When the uterus is thoroughly cleaned and irrigated it seems best to leave it entirely alone and assist the patient to antagonize the toxins which the uterus takes up. If treated at once these cases usually terminate happily, but when treated expectantly the results are not so satisfactory. It is well known that the fatalities from abortion are mostly among the cases criminally produced.

Where the patient is profoundly anemic from sudden or long-continued hemorrhage, the urgent symptoms can be temporarily relieved by the introduction of from one to five pints of normal salt solution by means of an aspirating needle and the douche bag both being carefully sterilized as well as the solution. The needle should be introduced under (not into) the mammary gland of one or both sides.

Under no circumstances can the use of tents be justified. They are unnecessary, imperfect, and incapable of complete sterilization. The introduction of styptics into the uterine cavity must be expressly condemned as unnecessary, always harmful, and sometimes dangerous. An exception is possible in the case of iodine, as the least objectionable.

Every abortion must be regarded as a severe surgical case and treated as such. The practitioner should impress upon his clientage that abortion is a very serious matter and requires the best judgment and skill obtainable in its management, for where one woman passes through these perils successfully many are seriously affected, either directly or remotely.

CAUSES AND TREATMENT OF HABITUAL CONSTIPATION.*

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CONSTIPATION seems to be too trivial a subject for an extended article without reviewing a great mass of matter which is apparently known to every physician. To relieve a temporary constipation may be simple enough, but to cure an established habit demands a carefully considered scheme of treatment. A cure, according to I. Boas, is when the intestinal function is performed in regular and sufficient manner, without the help of any mechanical or medicinal means, with a normal diet, or at least one approximately so. To fully understand the causes, and relief of habitual constipation, we must review our physiology as we learned it years ago, with the appropriation of new discoveries since.

The liquid part of the food in the stomach is forced out in little gushes every 8 or 10 minutes, commencing a few minutes after eating a mixed meal. The finely divided food passes out with the liquid part, and the stomach should be emptied four or five hours after each meal. The acid gastric chyme, passing into the intestines is never fully neutralized by the bile and pancreatic juice and the contents of the small intestine is always weakly acid. It has commonly been accepted that the cellulose or woody fibre of vegetables was only slightly digested in man, and moderately in the herbivora, but the researches of Menicanti and Prausnitz show that when taken in a mixed diet, in quantities up to thirty grammes, from thirty to seventy-five per cent. is digested.

It requires about two and a half hours for the chyme to pass from the pylorus to the colon, 24 feet, and 10 to 16 hours to pass through the colon, 6 feet, then becoming fæces, to the sigmoid flexure, where it is

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retained until a few minutes before defecation. In passing through the small intestines there is absorbed: Of the water in the food and drink, 90 per cent.; of the albuminoids, 85 per cent.; of the sugar, 100 per cent.; of the starch, 96 per cent.; of the fats, 96 per cent. Most of the residue of the above named articles is absorbed in the large intestines, leaving in the fæces: Of fats, 5 per cent.; of albuminoids, 5 per cent.; of starch, 0 per cent. The small amount of the fæces, 70 to 110 grammes, contains 75 per cent. of its weight of water, 5 per cent. salts, and most of the remaining 20 per cent. is bacteria and substances excreted by the large intestines. When rabbits are fed on bread they soon die of constipation. If horn shavings, which are absolutely indigestible for them are mixed with the bread, to give bulk to the fæces, they have sufficient passages and thrive. The natives of Ceylon who live chiefly on rice, are said to add chopped straw to it, to give the required stimulation to the bowels.

Conditions for normal defecation.—1st: Sufficiently quick discharge of stomach contents into the intestines; 2nd: Healthy action of the nervous plexuses of Meisner and Auerbach; 3rd: Normal irritability of the intestinal mucous membrane; 4th: Proper consistence of fæces (70 to 78 per cent. of water); 5th: Enough undigested residue in the food to produce a daily fæcal passage of (4 to 8 ounces) 120 to 240 grammes; 6th: Action of the abdominal muscles produced by walking moderately, and by pressure during defecation. Although each of these conditions should exist for regular stools, neither the diminution nor failure of any one of them would necessarily lead to constipation. There is a compensating action, as in other systems of the body, on which a failure in function of one member of the system is compensated by increased action of other members. That the fæces shall have the proper consistence to allow them to pass easily through the colon and rectum, there must be such a proportion between the water discharged from the stomach into the duodenum and the amount absorbed from the whole intestinal tract, that the fæces will contain 70 to 78 per cent. of water. If this relation is much disturbed, in either direction, we have constipation or diarrhoea.

The most frequent original cause of constipation is the hyperchlorhydria or hyperacidity of young adults, in which condition, owing to the irritating excess of HCl, the pylorus remains closed too long after eating and the intestines fail to receive the necessary amount of fluids; the absorption from the intestine going on as usual, the fæcal matter must become too dry to pass easily along. The constipation commencing thus, leads to the atonic form and also becomes complicated with the mechanical forms, caused by alterations in the positions, caliber and curvatures of the large intestines.

In the reverse condition, in which the discharge of the stomach being normal, absorption from the intestines is excessive, we also have constipation, as seen in diabetes after excessive perspiration in persons when they first go to warmer climates, or work harder than usual. Where the liquid contents pass out of the stomach too quickly, a diarrhoea is produced, as seen in persons who drink large quantities of mineral water (iso or

hypertonic to the blood) too weak for the dissolved salts to have any purgative effect. In persons who have the pylorus removed or who have had gastro-enterostomy performed, when full meals are taken, not being held back by the pylorus, the contents of the stomach pass out quicker than the intestines can absorb it and diarrhœa is often seen.

The normal irritability of the small intestines depends mostly on Meisner's and Auerbach's plexuses, situated, the first-named, in the sub-mucous layer, and the last between the muscular layers of the intestines. The colon and rectum are under control of the splanchnic and sacral branches of the spinal nerves. The normal irritability is much lowered in hysteria; uncompensated heart disease; after the use of strong cathartics; after acute attacks of dysentery and diarrhœa.

The proper consistence of the fæces is, that it should be moulded into large cylinders, and should contain 70 to 78 per cent water. The fæces of persons living on starch and animal food exclusively are hard and scanty. To give the proper consistence requires vegetable fiber, which, as found in most fruits and vegetables, is a light spongy mass, capable of absorbing in its meshes 60 to 80 times its own weight of water under the ordinary intra-abdominal pressure, which has been found by Meltzing to be equal to 36 centimeters of water.

The cellulose exists in vegetables and fruits in the proportion of three-fourths of one per cent. to two and four-tenths per cent., as shown by the following table of analysis I have made (see Table No. 1). Coarse whole-grained bread, peas and beans, have a considerable undigestible residue, consisting chiefly of the silicious and fibrous coverings, which, when finely divided, absorb considerable water, and give bulk to the fæces, but not nearly in the same proportion as the cellulose of vegetables and fruits.

TABLE No. I.

ANALYSIS OF VEGETABLES.

Cooked.	Per Cent. Water.	Per cent. Cellulose.
Cabbage.....	89.	1.23
String Beans.....	95.	2.4
Carrots.....	93.	2.0
Turnips.....	97.	1.4
Cauliflower.....	90	1.1
Spinach.....	89.	1.1
Celery.....	97.	1.3
Beets.....	94.	1.05
Lettuce.....	94.	0.72
White Bread.....	35.59	0.22
Coarse Bread.....	40.45	1.78
Figs, Dry.....	31.	and seeds 6.8
Prunes, Pulp.....	29.	1.0

CAUSES OF HABITUAL CONSTIPATION.

Faulty expulsion. Mechanical.	{	Bad habits.
		Sedentary occupations.
		Tumors, strictures, etc.
		Weak abdominal muscles.
		Defective innervation.
Faults in Intestinal contents.	{	Spasms of sphincter ani from { Fissure Hemorrhoids.
		Spastic constipation.
		Deficient intestinal secretion.
		Deficient bile secretion.
		Food too absorbable.
	{	Intestinal contents too dry. { Pyloric spasm. Excessive diuresis in diabetes. Excessive sweating, Excessive urine in meat eaters.

Exercise has an important part in causing normal passages. Every step taken causes an alternate tension and relaxation of the abdominal muscles, and these alternations of pressure urge the contents of the large intestines forward. The effect of this has been very much overrated, for where constipation depends on gastric stagnation caused by gastrectasis or gastropnoia, it is well known that under a rest-cure the bowels will act freely without any purgatives. The mechanical faults of expulsion I will only enumerate in this paper.

Defective innervation, causing constipation, is a decrease of the normal irritability, the result of conditions already enumerated or of a long established habit, commonly described as atonic constipation. Spastic constipation was first described by Cherehewski and Fleiner as caused by an abnormal contraction of the colon and rectum, characterized by small caliber passages of normal consistence occurring in neurasthenic persons, and relieved by treatment directed to the neurasthenia.

The second most frequent cause of constipation is a deficient bulk in the feces from too absorbable foods. A healthy adult, weighing 150 pounds, living on white bread, potatoes, meat, eggs and fats, has a daily amount of 55 to 70 grammes of feces. This is barely enough to stimulate the bowels to a daily passage. The substances are too freely absorbed in the intestines. It requires something which will give bulk-irritation. This is afforded by the husks of grain, in coarse bread, beans and peas, and by the fibre in fruits and vegetables.

The intestinal contents may be too dry from deficient outflow of liquids from the stomach, caused by the pyloric spasm due to hyperchlorhydria. Intestinal dryness may result from any form of stagnation of stomach contents. The feces in these conditions contain 60 to 65 per cent. of water, instead of 70 to 78 per cent of water.

It is known that we cannot increase the nitrogenous tissues of the body by an excessive albuminoid diet, except in persons who have lost their normal amounts of nitrogenous tissue by sickness, or in those who are increasing their muscular development by work. In all other cases the more meat and albuminoids we eat, the more urea is formed. Urea being a powerful diuretic increases the amount of urine by absorption

from the intestines, and this is a cause of hard and scanty fæces in persons living on animal food chiefly. The amount of water in the fæces falls to 60 per cent.

Treatment.—In undertaking the relief of a case of habitual constipation, we must first of all find out if there are any faults of expulsion, which I have classed as mechanical, for most of these may be removed by surgical or mechanical methods. Considering the most obvious factors in producing regular passages, and the possibility of them compensating for others, we should try, first, to remove directly the principal cause. If this is not possible nor convenient, we may try to increase the action of other factors which, perhaps, are not deficient. For instance, if there is an atonic constipation due to sedentary habits, with diminution of the nervous intestinal irritability, if convenient, change the habits. We may stimulate the irritability by strychnia, or rubbing the abdomen with ice a few minutes, or apply ether spray each day, or roll an iron (5-pound) ball over the course of the colon. Failing in this (even if the consistence of the fæces is normal), we may make it softer by more liquid before meals, or more bulky by increasing the cellulose of the food.

The secretion and discharge of the various digestive fluids depend largely on the stimulation of the next preceding secretion. The entrance of the saliva with the food stimulates the gastric secretion. The passage of the acid gastric juice into the duodenum excites the pancreatic flow, and possibly the biliary flow; these in their turn probably excite the intestinal secretion. If there is no hydrochloric secretion by the stomach, the use of large doses of hydrochloric acid after meals will be likely to stimulate a deficient intestinal secretion.

Ipecac in small doses has been proven to excite bronchial secretion, and is used to some extent to increase the intestinal secretion. I do not know of any proofs of its action on the intestines.

Where the food is too absorbable and the weight of the fæces much diminished from the normal, 120 to 210 grammes (4 to 7 oz.) we should change the diet to have more insoluble fiber in it. Almost any vegetable or fruit will do, or the bread should be made of the whole grain flour. In diabetic constipation more water should be given. The constipation of young persons usually depends on hyperchlorhydria or other irritating acids in the stomach, which cause a reflex spasm of the pylorus and delay the passage of liquids out into the intestines.

Irritating purgatives, like aloes, colocynth, jalap, podophylin, are also held back in the stomach and do not act well, while the alkaline saline purgatives, taken hot and well diluted, neutralize the acid, exert a soothing action on the stomach, favor its discharge and supply the requisite water to the bowels for proper stools. Experience shows the adaptation of the alkaline purgatives to the young.

A very little saline in 250 to 400 grammes of water, or even hot water alone, will often relieve this class of constipations. Sweet oil and much fatty matter in the food have a soothing effect on the stomach and cause normal passages by promoting the discharge of the contents of the stomach into the intestines.

TABLE NO. II.
INFLUENCE OF DIET ON FÆCES.

Diet.	Amount taken daily.	Period of Trial.	Dry Fæces.	Wet Fæces.	Cellulose. Insoluble Vegetable Residue.		Age and Weight of Subject.	
					In Food.	In Fæces.	Yrs.	Kilos.
Meat.....	834	3	17.2	68.8	.....	.....	22	72
Fish.....	733	3	17.1	68.4	.....	.....	22	72
Eggs.....	474	2	13.	52.	.....	.....	24	46
Cabbage.....	3830	3	73.	13.	46.80	.....	24	46
Rice.....	638	2	27.	108.	.....	.....	27	71
Fine Bread.....	615	3	25.	100.	3.65	.....	27	71
Coarse Bread.....	617	3	75.	300.	26.84	12.71	27	71
Carrots.....	1711	3	85.	340.	34.22	.....	24	46
String Beans.....	540	2	76.	.....	12.96	.....	24	46
Milk.....	2438	3	24.8	99.3	.....	.....	27	71

We find from the Table No II the effect of exclusive diets on the different classes of food on the fæces. These are not exactly fair tests of their effects on mixed diets, for some which are well digested and utilized in moderate quantities, are not well digested in large quantities. Milk diet is an example.

LOSS OF CASEIN AND FAT IN A MILK DIET.

Amount of Milk given daily.	Loss of Casein in the Stools.	Loss of Fat in the Stools.
Grammes.		
2000	5 per cent.	3 per cent.
3000	8 "	5 "
4000	12 "	6 "

In Table No. III which I now give, embracing my own experiments, the effect of vegetables in moderate quantities with a mixed diet is shown in a healthy man, 50, weight 165 lbs.

TABLE NO. III.

AVERAGE DAILY EFFECT OF VEGETABLES, TAKEN WITH A MIXED DIET, OF THE FÆCES.

Vegetable.	Amount	Cellulose Contents.	Amount Fæces Wet.	Excess Fæces due to Vegetables.	Duration of Experiment
	Gram's.	Grammes.	Gram's	Grammes.	Days.
Carrots.....	240	4.80	225	165	3
String Beans.....	240	4.59	219	159	3
Turnips.....	240	3.36	200	140	3
Spinach.....	240	2.64	223	163	3
Cabbage.....	240	5.58	264	204	3
Cauliflower.....	240	2.73	153	93	3
Dry Figs.....	1:0	8.16 & seeds	189	129	3
Cooked Prunes.....	240	2.43	235	175	3
Whole Wheat Bread.....	617	11.00	300	200	3
Fine Bread.....	300				
and Meat.....	300	1.68	60	.....	3

From Tables No. II and III it will be seen that on a diet of meat, eggs and fish exclusively, or on a mixed diet of fine bread, meat and fats, the amount of fæces was from 52 to 68 grammes, an average of 60 grammes when no vegetable fiber or husks is taken; from Table III, we see that the insignificant amount of fiber or husks increased the fæces 19 times its own weight in the case of whole wheat bread; in spinach 61 times, and with prunes 71 times.

An objection is frequently urged on prescribing a considerable addition of green vegetables to the diet; that they will disagree and cause flatulence. This is true for vegetables as ordinarily eaten, but if they are in a state of fine division, which should be the case with all dyspeptics, they will rarely disagree. The division is made by rubbing through a coarse sieve or by mashing in one of the now cheap and common family grinding machines. Those vegetables which are naturally very fine (that is, in thin leaves) such as lettuce and spinach, are rarely found to disagree with dyspeptics.

THE MANAGEMENT OF FEVERS.*

BY I. N. LOVE, M.D., NEW YORK.

I FEEL highly honored in having been invited to read a paper before this Society, thoroughly representative as it is of a local profession that is surpassed by no other body of medical men in America, or any other country. I have selected to discuss in an informal way the management of fevers, and since selecting this topic I find that another essayist for the evening is to discuss "Is there a continued fever distinct from malaria and typhoid fever?" (1) I shall, in the views which I voice, touch upon this question.

Woodward, of "Typho-malarial fame," observed and wrote wisely and well, but arrived at conclusions which were too broadly presented, and gave us an addition to our nomenclature which is confusing and erroneous, and yet careful observing practitioners, of the Mississippi Valley at least, know that he graphically and correctly described the conditions, if not the theories, frequently confronting them in their regular autumnal work. It is being pretty clearly established that malaria, due to the plasmoidium of Laveran, and yellow fever are carried into the human blood by certain breeds of female mosquitoes; whether this is the only medium remains yet to be determined. It has also been established by good authority that we may have a double infection, that is, an individual may be the victim of typhoid infection, plus malaria, though it does not occur frequently.

On general principles, the year around, everybody eats in excess, but this is doubly so during the hot months of the summer and fall, when the hydrocarbons are not needed for heating purposes. As a result at this season of the year the majority of the population in the warm zone are ripe for an interruption of metabolism, explosive disturbances, due to perverted secretions, all of which will not only produce continued fevers of shorter or longer duration as the case may be, but invite and render the victim susceptible to infections and greatly aggravate their virulence.

How many of the majority of us, after ten years of practice, are not able to treat seventy-five per cent of our fever patients, particularly among children, without the aid of quinine, and in utter disregard of the germs of Laveran or Eberth, they being fevers in fact due to catarrhal disturbances of mucous membranes and accumulated ptomaines, fermenting food and excretory matters in general. Those who practice at all among the Germans meet numerous cases of fever which the mothers and gross mutters very graphically and correctly attribute to a "spoilt stomach." All such cases are very promptly relieved and cured by a complete emptying of the alimentary canal and energetic attention to all the eliminating organs, coupled with judicious starvation for some days, and a gradual return to easily digested food.

* From *The Medical Mirror*.

I am strong in the belief that many of the autumnal fevers which last for weeks, and are sometimes fatal, are so only because they are too frequently interpreted as typhoid fever, not purged at all, and in many cases the secretions are checked and further perverted by mis-applied cold baths, when, had they been treated in the classical way of our fathers a few decades ago, by receiving a "puke, a purge and a sweat" and proper withholding of food, they would have been convalescing in a few days.

So, too, I am certain that the so-called malignancy and often fatality of typhoid fever, scarlet fever and other infections are dependent upon the same causes. I can better illustrate my point by citing a case of typhoid fever in a robust boy of twelve, growing rapidly, who was an enormous eater, eating each day as much as two average men would do. I saw him on the sixth day, and his temperature had ranged from the start from 104° to 106° , except for a short time, after cold baths, which, by the way, were very distressing to him, uniformly raising a riot, and which had been given by two skillful and energetic trained nurses, under the direction of the three conscientious, up to date attending physicians. Being familiar with the boy's voracious hungry habits, and that very probably he had for years averaged two large evacuations from his bowels daily, I was, on being placed in charge, anxious to determine the condition of his secretions. I found that in the beginning he had been given a few paltry pellets of 1-10 of a grain of calomel, which had been topped when his bowels were reported as having been moved. On examination I found his bowels greatly distended by gas and large masses of fecal matter. After washing out the stomach with a pint of hot water I gave at once a three grain dose of calomel and soda, followed in three hours by another. I personally gave a soap and water enema of one pint, followed at intervals of two hours by half a gallon high up enema, using, as I always do, a large size soft rubber male catheter on the end of the syringe nozzle, until the bowels were collapsed, being absolutely empty. During this time I prevailed upon my patient, he being very intelligent and helpful, to drink a tumblerful of water every half hour. Any disposition to nausea was overcome by ice cloths to the mouth and mustard leaves to the pit of the stomach. The liberal use of water flushing of the alimentary canal from both ends, as it were, resulted not only in emptying the canal but in flushing the kidneys and arousing free sweating. Intestinal drainage was maintained from time to time there after by two to four ounces of apenta water washed down by a glass of hot water.

After the gut was emptied and active elimination was secured, the temperature fell to 102.5° , and ranged from 101° to 103° for ten to twelve days. Fever had gone at end of fifth week. At no time was a cold bath, which had been terribly demoralizing when applied, required. Sponging off with tepid water and a little alcohol was directed once a day.

Had the indications been promptly met in the outstart of this case, the illness would have been very light, as it was a mild infection. Had the management of his case continued as during the first week, he would, I think, surely have died, not of typhoid fever, but typhoid fever, emphasized and aggravated by autoinfection and intestinal distension.

That we may have continued fever of many weeks' duration due to sewer gas poisoning is evidenced by many cases which I could present from my case book, one, however, will suffice.

D. H., aged ten, at end of third week of low continued fever, came under observation, temperature ranging from 100° to 102.5°, thorough interrogation eliminated typhoid and malarial fever as causative factors, and we applied the convenient term gastric fever in lieu of a better one, the secretions generally being torpid and perverted.

Casually one morning, at end of my first week's service, and the fourth week of fever, sitting by my patient, close to the head of her bed, I discovered a terrible odor, which I promptly traced to the furnace register in the wall immediately back of her low bed. Following this odor to its source, I found the furnace pit in the graveled and cemented cellar below filled with sewage from a broken sewer pipe which drained the water closets and house in general. The floor being a hard cemented material was not penetrated by the filthy sewage, and the only exit was the furnace pit, the furnace not being in use, the conditions were not discovered.

This nursery room was small, the furnace register being close to the head of the sleeping child, and this particular heat pipe had not been closed by damper in the cellar, so full opportunity was given to the potent poisoning of the child, whose power of resistance was not sufficient to successfully cope with the sewer gas.

Had the discovery not been made we would have gone on blindly for an indefinite time and the child would more than likely have died. A removal of the patient to another house with ideal sanitary conditions, a sunshiny room, warmed when needed by an open wood fire, full ventilation, gentle stimulations of all secretions, an acceptable highly nutritious diet, with aid to digestion, after several weeks, secured a perfect recovery.

In the victims of fever, whatever the age, whether the fever be due to infection, perverted secretions, autoinfection, sewer gas or what not, we must keep ever in mind the gouty diathesis, both hereditary and acquired, and direct our treatment accordingly. In brief, in the management of fevers, whatever the origin or cause, I commend the following points:

1st. Prompt potent purgation, even though attendants report bowels as being open. A diarrhea is often nature's effort to rid itself of offending materials. Safe, gentle intestinal drainage should be maintained throughout the conduct of the case.

2nd. Earnest regard for strenuous activity of all the eliminative organs is essential—and let it not be forgotten that the lungs are the most important of the eliminating organs—and an abundance of oxygen is a "*sine qua non*," and after this in degree of importance comes water in abundance.

3rd. Intelligent attention to nutrition demands the complete withholding of all food in the beginning for several days, later only the blandest, the most digestible articles in small quantities. The pushing of food cannot be safely done until the secretions have all been corrected and it is evident that the digestive organs are in no way crippled. Graves, when he said that he desired placed upon his monument, "He fed fevers," did not mean that it should read "He gorged, he stuffed fevers."

4th. Temperature can best be held down and the nerves tranquilized to the safe point by bathing, as in everything else, the pleasant and the easy way is the best. The stereotyped rigid water not only flushes the excretory organs, but cools the fever, and the cool bath also acts in this double capacity.

5th. In the handling of our fever and other patients we have adopted to advantage many ideas from the fanatical class formerly known as hydropaths, and so we may, to the great good of our clients, apply gentle manual massage, and even many of the manipulative methods of the so-called osteopaths, many a jumping joint, tired muscle, or restless nerve can thus be soothed to rest, and during convalescence a more industrious application serves as a stimulant and tonic.

6th. Let it be remembered that the sweetest word in our language is "rest." Sancho Panza said truly, "Blessed be the man who invented sleep." The doctor should ever keep in mind the words of the sacred book, "He giveth His beloved sleep," and sleep, complete rest at proper intervals, rest, physical and mental, are vitally essential to the victim of fever.

7th. "The Big Four Route" to health in all diseases, including fevers, is first, elimination; second, disinfection; third, nutrition, and judicious nutrition means little or no food during acute stage of disease, including stimulation; fourth, tranquilization—rest.

8th. We should not be so absorbed with the material methods of relief as to ignore the psychic. The latest breed of "fool fanatics" victims of delusion, for revenue chiefly, are giving us many "cues," and we should read correctly the lines which follow after.* It is our duty to study this question thoroughly, tolerantly, realizing to the fullest the power of mind over matter.

No matter what the age of our patient, we should be able to absolutely command or lead him in the direction of his best good, and we should thus be able to help him to command himself, but to succeed we must first become the complete rulers of our own selves.

Josh Billings, the humorist, expressed it well when he said, "I have often thought if I were a doctor that I would treat my patient and let his disease alone." We should study disease not less, but man more.

In closing permit me to quote a thought as given by the versatile, scholarly, gentle, sweet and tender "Amiel," who was a patient sufferer for many years, and probably endured much at the hands of many physicians: "Why do doctors so often make mistakes? Because they are not sufficiently individual in their diagnosis of their treatment. They class a sick man under some given department of their nosology, whereas every individual is really a special case, a unique example. How is it possible that so coarse a method of sifting should produce judicious therapeutics? Every illness is a factor simple or complex, which is multiplied by a second factor, invariably complex—the individual, that is to say, who is suffering from it, so that the result is a special problem, demanding a special solution, the more so the greater the remoteness of the patient from childhood or from country life."

*Christian Scientists.

"The principal grievance which I have against the doctors is that they neglect the real problem, which is to seize the unity of the individual who claims their care. Their methods of investigation are far too elementary—a doctor who does not read you to the bottom is ignorant of essentials. To me the ideal doctor would be the man endowed with profound knowledge of life and of the soul, intuitively divining any suffering or disorder of any kind, and restoring peace by his mere presence. Such a doctor is possible, but the greater number of them lack the higher and inner life; they know nothing of the transcendent laboratories of nature; they seem to me superficial, profane strangers to divine things, destitute of intuition and sympathy."

"The model doctor should be at once a genius, a saint, a man of God."

THE NATURE AND THE CAUSE OF PUERPERAL ECLAMPSIA.

By the Editor of the Journal of the American Medical Association.

AT the Ninth Congress of German Gynecologists at Giessen, May 29-31, 1901, eclampsia constituted one of the subjects for an exhaustive general discussion, which was introduced by Fehling and Ryder.* Inasmuch as this discussion probably represents quite fully the present views concerning the nature and cause of eclampsia it may be of some interest to briefly review the principal facts and opinions brought out.

In his report on the pathogenesis Fehling announced the following theses: Puerperal eclampsia is a distinct and characteristic process, which occurs only in the period of gestation. There is no special form of placenta, no special form of renal or hepatic disease in eclampsia; it is not necessarily connected with ureteral dilatation, but albuminuria is almost always present. There is no definite pathological anatomy of eclampsia. That it is contagious has not been shown, and there is no proof of Bouchard's claims that it is caused by an increased toxicity of the plasma of the blood associated with diminished or absent toxicity of the urine. Eclampsia is neither an hepatotoxemia nor a leukomainemia. The lesions of eclampsia are associated with the presence in the blood of some coagulative substance. Finally, eclampsia is an intoxication of fetal origin.

A very important contribution to this discussion is Schmorl's report on the pathological anatomy based on a thorough study of the organs in no less than 73 cases. From the results Schmorl finds that the process has a fairly definite pathological anatomy, thus invalidating one of Fehling's theses. When the whole complexus of morbid changes are considered one must agree with Schmorl. The kidneys without exception are the seat of albuminous and fatty degenerative changes with more or less necrosis. These changes affect the secreting tubules and occur in varying degrees of extent and intensity. Thrombosis is frequent in the glomerular capillaries, as also in the arterioles and veins. Ureteral dilatation is of no greater frequency than in the non-eclamptic. In three

*1. Report in *Centralbl. f. Allg. Path. u. Path. Anat.*, 1901, XII, 635-648.

cases there were hemoglobin infarcts and hemoglobinemia, but the exact cause could not be determined. In the liver there are albuminous changes in the cells, and hemorrhagic and anemic necrosis were present in 71 cases. In the two cases in which they were absent there was total thrombosis of the main stem of the portal vein. These necroses when small, are situated in the peripheral parts of the lobules and invariably accompanied with thrombosis of the inter- and intra-lobular capillaries and often also of the larger vessels. The necroses do not stand in any relation to the severity of the symptoms, and they are not due to traumatism during the convulsion, because there may be very few in cases with many severe convulsions and very many in cases with few and light seizures. In addition to secondary pneumonic processes, the lungs showed thromboses and hemorrhages in 66 cases. Fat embolism was also frequent, the source of the fat being, it is thought, the bone marrow, the subcutaneous tissue and possibly also the fat tissue in the pelvis. The most constant changes in the brain are small softening and hemorrhages, especially in the cortex, but also in the brain stem and in the lenticular nucleus. Thrombosis and possibly increased blood pressure during the convulsions are regarded as the cause of these changes. In the heart are degenerative changes, hemorrhages necroses, and thrombi, but the latter are not as common as in the other organs.

Schmorl does not attach any special importance to embolism of parenchymatous cells in eclampsia. Even placental cell embolism are not distinctive because it occurs in non-eclamptics. Schmorl is no longer disposed to attribute to placental cells the ability to liberate coagulative substances. He has not seen any other disease with the complexus of changes outlined in the foregoing. While no single lesion is absolutely characteristic or pathognomonic, the sum total of all the changes is as distinctive as in many other diseases. From the nature of the lesions he would assume that a peculiar substance enters the blood and leads to multiple thromboses. Whether this substance comes from the placenta or from the fetus cannot be settled at this time. Possibly the applications of the principles of cytolysis may throw some light upon this dark problem.

It is regrettable that careful and complete bacteriologic examinations do not accompany this valuable report which is based upon such a wealth of observations. The relations of bacteria and bacterial products to thrombosis are of such importance that they surely merit consideration in connection with eclampsia; and the clinical picture and pathological anatomy of eclampsia do not of themselves definitely exclude a microbic etiology. Indeed, Albert advances the theory that eclampsia is a microbic intoxication from the decidua.

Strassmann deals with the question of the why and the when toxic substances are retained in case eclampsia is a toxic disease. Kundrat and after him Herzfeld advanced the theory that abnormal divisions of the abdominal aorta may result in such displacements of the ureters as to subject them to compression. The frequency of eclampsia in primiparæ and in twin birth, in contracted pelvis, and the fact that the attacks may cease after delivery, point to the influence of mechanical conditions.

He could not find, however, after an exhaustive investigation, any relation between puerperal eclampsia and anomalous division of the aorta.

In the same discussion considerable reference is made to physical and chemical conditions of the blood and urine in eclampsia. Futh and Kronig found that the maternal and fetal blood have the same osmotic tension and specific gravity, showing that if there are toxins in the maternal blood they do not cause increase in its tension or its gravity. Dienst observed an increased amount of fibrin in both the bloods in pregnancy, and he assumes that during pregnancy a certain amount of poison is produced in the fetus and taken into the maternal blood where it may accumulate in fatal quantities in case elimination is interfered with. Schumacher established that the urine of eclamptics is no more toxic than normal puerperal urine of the same concentration. He regards the toxicity of eclamptic urine when concentrated as dependent entirely upon its hemolytic properties due to its different tonicity from that of the serum of the blood. Schroeder notes that the freezing point of urine in eclampsia falls below healthy urine and sometimes below that of the blood. As the attacks pass away concentration increases, but the observations are not sufficiently extensive to permit any definite conclusions. In connection with this question reference may be made to the article by Stern in which he discusses osmotic pressure in its relation to uremia.

Veit did not find the maternal serum hemolytic for the blood cells of the fetus nor the fetal serum lytic for the maternal corpuscles. By inserting syncytial cells from the rabbit into the abdomen of geese the serum of the geese acquired the power of dissolving the placental cells of the rabbit—a placentolysin or syncytiolysin developed. Normally but few syncytial and placental cells enter the maternal circulation; should a larger number enter, lysins with toxic properties might develop, but Veit adduces no further evidence in favor of this idea.

Taking it all in all we must admit that eclampsia is a toxic disease in which coagulative substances exist in the blood, but the source of these substances has not been determined. No decisive proof is at hand to the effect that the intoxication is of fetal origin.

Mouth Wash.—

R Acid. salicylici,
Sodii bicarb.,
Sacchari āā gr. xv.
Spt. vini rect 3 i.
Spt. menth. pip gtt. x.

M. S. Teaspoonful in a small cupful of hot water.

This is an excellent gargle for sweetening the breath.—*Medical Times and Hospital Gazette*.

Pruritis Ani.—

R Sodii hyposulphit 30 parts.
Acid. carbol 5 "
Glycerini 50 "
Aquæ 450 "

Apply frequently by means of wet compresses.—*Medical Times and Hospital Gazette*.

SOME OF THE USES OF ELECTRICITY IN GYNAECOLOGY.*

By W. H. WALLING, A.M., M.D., Philadelphia, Pa.

IN taking up electro-gynaecology, let us first revert to current diffusions ions and resistance in order that we may better understand the procedures in the conditions to be studied.

If we use the current in the vagina, uterus, bladder or rectum these surfaces, presenting as they do less resistance than the dry epidermis, the effect will be much more pronounced from a given amount of current compared with the same externally applied. The greatest effect will be at the poles, the size and character of the electrodes largely modifying the action. If we wish to produce a cauterizing effect upon the uterine canal we must allow twenty-five milliamperes of current for every square millimetre of electrode surface. If, therefore, the internal electrode presents ten square millimetres of surface, two hundred and fifty milliamperes of current must be used in order to get full cauterization.

If a bare copper or zinc electrode be used with the positive pole the metal will become oxidized to a greater or less extent, thus adding to the effect. If too strong a current be used, or the application be too much prolonged, an eschar will be formed which may prove to be troublesome. Unless under exceptional circumstances a platinum or carbon instrument should be used in making positive applications to mucous membranes. With such an instrument a current strength of one hundred to two hundred and fifty milliamperes may be given in the uterine cavity with safety, if properly timed.

Amenorrhœa.—Many cases of amenorrhœa, being dependent upon anæmia, direct stimulation of the uterus will be contra-indicated. In such cases tonic treatment is to be given and galvanization by the lumbo-abdominal method and voltaic alternatives without shock, using from fifteen to fifty milliamperes for five to ten minutes daily or every other day according to indications. Later on voltaic alternatives with shock may be given if deemed advisable. In some cases I have given fifty milliamperes by the shock method with good results. Gradually accustom the patient to the latter method before attempting its full effects. Of course, in all cases of suppressed menstruation, pregnancy is carefully excluded before treatment is begun.

If direct stimulation of the uterus be deemed advisable, it may be carried out with either pole, but the cathode is the most stimulating. Commence with twenty-five milliamperes, carrying it up to one hundred if necessary: five minutes with the former and two minutes with the latter. Sitzings may take place once or possibly twice per week. In some cases the flow will become re-established after two such applications. Intra-uterine faradization has also been effective in this condition: as has the static spark, alternated with faradization. A bipolar electrode may be used with the faradic current with good effect. Any intra-uterine

* American Obstet. and Gyn. Journal.

treatment should not be given within two or three days of the monthly period, either before or after.

Dysmenorrhœa.—In some cases the static spark is very beneficial and sometimes general faradization or lumbo-abdominal galvanization will suffice to prevent pain at the monthly period; but generally some form of intra-uterine electrical treatment will be found to be necessary. If there be a stenosis or a membranous dysmenorrhœa to deal with, strong negative galvanization is indicated. It will be better for a beginner to use mild electrolysis in a stenosis before attempting strong currents. If the stenosis be in the form of a cicatricial stricture mild galvanization is always indicated. An illustrative case may be cited: Miss B. had the cervix dilated for some purpose or other until the os presented the appearance of having passed through several labors. The canal was patulous to the inner os, which was only a "pin hole." The smallest instrument would not pass and a special electrode had to be made. With this, an application of only five milliamperes, negative, was made and the stricture easily passed. Larger and larger instruments were then used from time to time until the desired size was reached and her "dysmenorrhœa" cured.

If the whole canal be very small it will be better to use an instrument that can be passed, act upon the tract throughout its entire length and at the next sitting use a larger sound and so on. The canal is enlarged by negative and lessened by positive galvanization. A current strength of five to twenty milliamperes may be used, the former for five or more minutes, the latter for one or two minutes, keeping the electrode gently moving so as to reach every part of the canal. If, for any purpose, the positive pole be used in the neck of the womb or in the urethra, it must be kept in motion to prevent adhering to the surface of the tissues.

After all intra-uterine applications the patient should be allowed to lie down for awhile and a warm, antiseptic douche may be ordered every day, or even twice a day. Such applications should not be made oftener than once per week or ten days. Time must be allowed for the parts to heal before another treatment is given.

Ovarian Neuralgia.—Where there is no inflammatory condition to combat, but simple neuralgia is the prominent symptom, the faradic current is indicated either with or without a bipolar electrode. In using the monopolar instrument place a pad on the abdomen and pass the vaginal electrode well up against the painful ovary. Use the fine, secondary coil and begin with a mild current, gradually increasing the intensity up to the point of extreme tolerance and continue such application until the pain has subsided. This may take half an hour or more, but do not increase the intensity after once having attained the maximum. The sensation will gradually lessen, even to a total disappearance, but under no circumstances should it be increased except as at first stated. The pain may return in one, two, or three days or even on the same day, when the same treatment should be repeated, even if it be necessary to give the current twice in a single day. Some of these cases are very obstinate and will require treatment for several months in order to get

the system in the proper tone. Of course, suitable internal medication is to be administered in connection with the electrical treatment; but as this paper is dealing with the latter only, drug medication will not be considered.

Delayed Menstruation.—We frequently find that central or general electrization will overcome the tardy appearance of the menses, so great are the reflex and remote effects of electrical treatments.

As to sexual excitement from the use of the current, I may say that I never saw any exhibition of such excitement in any case. In the *Medical World* for March, 1890, the writer published a symposium upon this question which gave the experiences of a number of prominent gentlemen of large experience and all agreed that no such excitement ever followed electrical applications or occurred at the time of administration.

The faradic current may be used in the following conditions: Insufficient development of the uterus and ovaries, amenorrhœa, subinvolution, superinvolution, displacements, menorrhagia and interstitial fibroids. The galvanic current may be used in hyperplasia of the uterus, chronic ovaritis, peritonitis, pelvic neuralgia, local and reflex neuralgia, mechanical dysmenorrhœa, erosions of the neck, or os, subperitonæal fibroids, endometritis, bleeding fibroids, etc.

Erosions.—Use a zinc or copper electrode and act upon the lesion with a current intensity of five to fifteen milliamperes for one to two minutes. The electrode should be well insulated up to within say half an inch of the distal end and the application be made through a speculum. Apply the cathode as a rule, but the anode may be necessary at times. The current has no effect upon the metal when used with the cathode; but if the anode be applied it is acted upon, the metal being oxidized and carried into the tissues by cataphoresis. This becomes very important in treating various conditions and the effects of each pole under the galvanic current, when metal electrodes are used, should be thoroughly studied before attempting such applications.

In treating erosions, etc., generally one application will suffice. If not, repeat in from three to five days. As in all such cauterizations time must be allowed for the parts to heal before a second application is given.

Metritis and Endometritis. Keith says that "There is nothing to compare with galvanism in the treatment of those very troublesome conditions, many cases of which have lasted for years, having resisted every kind of treatment previously used" This strong testimony has been corroborated in thousands of instances under the skilful care of other electro-gynæcologists, both in this country and abroad.

In the treatment of these conditions a platinum or carbon instrument should be used. Introduce the electrode well into the uterus, place a large pad upon the abdomen and use the current according to the following rules (after Apostoli): The positive pole is acid, anti-congestive and hæmostatic and is most useful in hæmorrhagic, congestive or ulcerative forms of metritis. It antagonizes and prevents the tendency to excessive vascularization and for the same reason becomes the choice remedy for a rebellious leucorrhœa.

The negative pole is basic, diffuent and but slightly hæmostatic and is used to excite languid or obstructed circulation or the indurations of chronic metritis, accompanied with amenorrhœa or dysmenorrhœa, and will adapt itself with similar success to other inflammatory processes where hæmorrhage does not predominate.

In making applications of the galvanic current to the endometrium a current intensity of from ten to one hundred milliamperes will be about the range, to be governed by the necessities of the case and the susceptibilities of the patient. Begin with a low power and increase as circumstances may require. Sitzings should be from five to ten minutes, and be given once or twice daily per week according to circumstances or conditions and the intensity used.

It is well known that in many cases where a small sound cannot be introduced that a large one may be readily passed. In such case, if the sound be too small, melt shellac upon the tip until the desired size be obtained. It can be made perfectly smooth and has the advantage of affording protection to the fundus if the instrument be used in the uterine cavity.

In many cases there will be found a marked hyperesthesia of the uterine tract, especially in the cervical portion, but this should rapidly subside under anodal applications. I sometimes use cocaine with the anode. In such case use a carbon electrode, cover it with absorbent cotton, wet it in a four per cent. solution of cocaine and apply with a current of five to ten milliamperes for five to ten minutes. This may be given two or three times per week. The same application may be made in sensitive vaginas, using a larger electrode and a stronger current, if bearable.

In treating the cervical canal with the anode, the electrode being bare, the latter must be kept in gentle to and fro movement in order to prevent its adhering to the parts. This precaution must be observed in all anodal treatments of mucous surfaces.

It must be borne in mind that a weak current applied for a long time is not equivalent to a strong current applied for a short time. In the first instance the cells of the tissues can adjust themselves to the new conditions to a certain extent, having a certain amount of innate resistance, while the present and remote effects are entirely different from that produced from a strong current where, the onset being sudden and severe the cells cannot resist and disintegration results.

Pyosalpinx.—Pus in the tubes may be diagnosed in the following manner: If, after an intra-uterine administration of a strong galvanic current, say for endometritis, pain be induced and continue after the current has been withdrawn, immediately apply the positive secondary faradic current in the vagina, carrying the intensity as high as possible and let it run for some time. If the pain be allayed, there is no pus in the tubes; but if it be not allayed by such applications pus is undoubtedly present and must be treated by swelling faradic currents in order to evacuate the tube if possible, or by galvano-puncture.

Subinvolution with Hæmorrhage.—In this condition the faradic current only is indicated. Use any electrode available, attached to the

negative pole, place the anodal pad on the abdomen (the cathode being in the vagina) include the whole coil in the circuit by means of the controller or the cylinder controlling the coil, preferably the former, give what is called swelling currents, *i.e.*, quickly turn on the current to the point of tolerance and as quickly reduce it. If the cylinder be used, as quickly withdraw and return it, thus giving sharp contractions without shock. They may be gradually increased in severity for a few times if deemed advisable. The object is to stimulate the uterus to a firm contraction which is generally promptly done. The first sitting need not last over three to five minutes with the intervals between contractions of from five to thirty seconds according to circumstances.

In cases of doubt as to the condition, the treatment will determine, as if it be due to a relaxation of the fibers, as in subinvolution, the swelling faradic current will soon relieve it; but if due to a fibromatous condition or to cancer, it will have no effect and the intra-uterine positive current from a galvanic series must be used. In the latter condition Apostoli uses carbon electrodes of sufficient size to entirely cauterize the whole inner surface, thus completely controlling the hæmorrhages.

It may be well to add that swelling faradic currents are of great advantage in all relaxed conditions of any part of the body; but one should always be careful not to unduly tire the muscles by too long an application. Treatments may be given every day, in some cases even twice in the day for a time, as indications might require.

Fibroid Tumors.—Where hæmorrhage is a prominent symptom only intra-uterine positive galvanization will avail. Place a large pad on the abdomen, introduce a platinum or carbon electrode into the cavity of the uterus and apply from thirty to one hundred milliamperes of current for five to ten minutes, once every seven to ten days. As far as possible, every portion of the endometrium should be acted upon. The more thoroughly this is done the better will be the result. At the close of the sitting, and before attempting to withdraw the sound, the current should be reversed for one-half to one minute, or until the electrode can be easily removed.

Ordinary hard fibroids, the non-hæmorrhagic variety, are not very amenable to treatment, *i.e.*, they cannot be removed by electrical applications; but in most cases some reduction in size may be brought about with a greatly increased comfort to the patient. Place a large pad on the abdomen, connected with the positive galvanic, and a similar pad on the back connected with the negative and pass a current of twenty-five to fifty milliamperes for ten to fifteen or even twenty minutes, two or three times per week. In some of these cases the writer has had most excellent results from this method of treatment, producing what may be termed symptomatic cure. The growths have not only been checked but the size of the tumors have been materially lessened, the patients made comfortable and serious operations rendered unnecessary.

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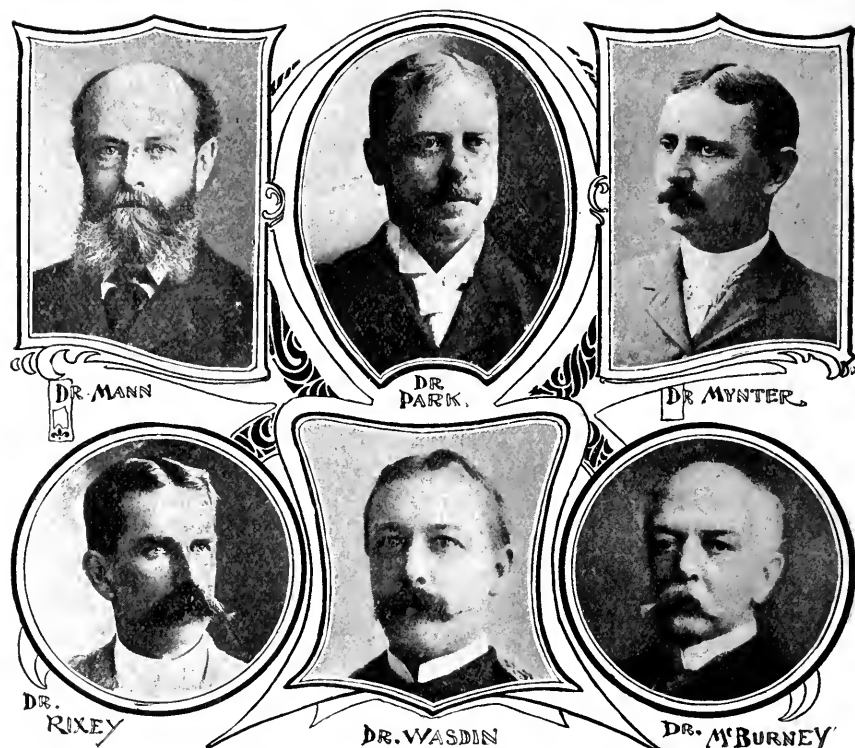
OCTOBER, 1901.

No. 2.

EDITORIAL.

PRESIDENT MCKINLEY'S DEATH.

IN no country in the world, outside the United States itself, was President McKinley's assassination viewed with greater horror, his hopeless struggle for life followed with more sympathetic interest nor his death more deeply deplored than throughout the Dominion of Canada. The bulletins issued from the sick room on the days following the assault were of such a hopeful character that people generally had begun to think his ultimate recovery was assured. The prompt and courageous measures undertaken by the surgeons who were first called to see him and their apparently brilliant results, were made the text for many laudatory comments in the public press on present day surgery. Unfortunately some of those connected with the case, if newspaper reports are to be credited, indulged too early in rather fulsome self-congratulation. It is therefore scarcely a matter for surprise that the news of the unfavorable turn the case had taken should have come as a shock to the public, who were quite unprepared for it, and that the keenest, almost angry disappointment should have been shown at the unfavorable termination. Immediately the medical attendants were subjected to the most caustic criticism and medical science incidentally, was made to share in the odium. Looked at in its most favorable light and in the knowledge subsequently gained from the autopsy, it must be candidly admitted that the whole case has not tended to raise the medical profession in the public esteem. The fatal termination was at first attributed to the too early administration of solid food, a hasty and wholly unwarranted conclusion which any thoughtful practitioner appreciated at the time and which the autopsy afterwards conclusively demonstrated. The post mortem examination revealed the fact that the case was absolutely hopeless from the first and nothing known to the therapist could have warded off the fatal result. All within the power of modern surgery and medicine was done. At the President's age



DOCTORS IN ATTENDANCE ON THE LATE PRESIDENT MCKINLEY.

and in his physical condition, the resisting and restorative power of nature were unequal to the task laid upon them. The tissues along the course of the wound through the abdominal walls, stomach, pancreas and kidney became gangrenous—a failure of the *vis medicatrix naturae* which no human power could obviate. It seems to us that much useless discussion has taken place as to the cause of the gangrene, some attributing it to a poisoning of the bullet, others to the digestive action of the pancreatic juice. Sloughing along the course of a bullet-wound, from direct injury to the tissues and the opportunity for microbic infection, especially in an elderly patient with lowered vitality, is certainly neither a rare nor unexpected result. Why attribute the gangrenous condition in the pancreas to the action of the digestive fluid, when the same reason does not explain the condition in the walls of the stomach and elsewhere?

While the autopsy has absolved the doctors from blame from a therapeutic point of view, it does not equally satisfy for the failure in diagnosis and prognosis. To the medical profession, with bulletins recording an unexplained increase in temperature and a rapid pulse, in

such a necessarily serious case of injury to the peritoneum and abdominal viscera, the absolutely roseate reports from the sick room were quite inexplicable. Only the excellent reputations of the specialists in attendance and the thorough confidence in their ability to do all that medical art allowed, and to appreciate as nearly as might be the gravity of the condition with which they had to deal, caused the profession more readily to accept their opinions, though at variance with general experience. For the failure in exact diagnosis only those ignorant of the difficulties in the way, would attempt to blame the doctors in attendance. In the face of the facts before them, however, the general verdict of the profession will accord with that of the public, that the surgeons were over-sanguine in their prognosis. No doubt, as often happens, the eagerness for the recovery of their illustrious patient and a desire to give as much hope and comfort as possible to anxious friends and to the people at large, caused them to unduly magnify favorable symptoms. Personal feelings for the patient obscured their judgment. The apparent failure to fully grasp the seriousness of the condition, appears to us to be the only thing for which the medical attendants can be justly criticised.

There are those, speaking in the light of the experience of Senn during the campaign in Cuba, and of Sir William McCormack, Sir Frederick Treves and Watson Cheyne, in South Africa, who will question the advisability of an operation having been undertaken at all, but this is still an unsettled point in surgery, and certain it is, public criticism would have been absolutely unrelenting, had death occurred without any operative attempt to give relief. The *New York Sun* from a lay standpoint we believe, sums the matter up fairly in concluding that "the necropsy shows that the most skilful medical diagnostician or therapist could not, by his advice, have changed the progress or the result of the conditions following the injury."

The failure of the pathologist to locate the bullet at the autopsy is another matter which, with the information at present at hand, is difficult to understand.

The following extract from the official report of the post mortem examination will assist in a clearer understanding of the whole case :

"The bullet which struck over the breast-bone did not pass through the skin and did little harm. The other bullet passed through both walls of the stomach near its lower border. Both holes were found to be perfectly closed by the stitches, but the tissue around each hole had become gangrenous. After passing through the stomach the bullet passed into the back walls of the abdomen, hitting and tearing the upper end of the kidney. This portion of the bullet track was also

gangrenous, the gangrene involving the pancreas. The bullet has not yet been found. There was no sign of peritonitis or disease of other organs. The heart walls were very thin. There was no evidence of any attempt at repair on the part of nature, and death resulted from the gangrene, which affected the stomach around the bullet wounds, as well as the tissues around the further course of the bullet. Death was unavoidable by any surgical or medical treatment, and was the direct result of the bullet wound."

THE PRESIDENT'S 'ALIEN' NURSE.

IN an editorial reference to the lamented death of President McKinley *The Detroit Medical Journal*, a publication issued by the J. F. Hurtz Co. in criticising the management of the case, mentions especially that "not only was Mrs. McKinley very carefully excluded from the sick room but her spouse was left to the 'rule of thumb' care of an alien 'trained' nurse." Of the many criticisms of the case which we have noticed, this appears to us to be the most unhappy, unjust and uncalled for. In the profession of medicine, so cosmopolitan, so wide in its sympathies, so little influenced by the jealousies, narrowness and bigotry that divide people politically or religiously, it is fortunately rare that such an example of petty prejudice and intolerance appears as is displayed by the writer in question. It is not necessary, nor do we pretend to offer any defence for either the Canadian nurse who attended the President nor for the doctors who recommended her services. They no doubt, had no other object to serve than their patient's welfare, and they were in the best position to judge of the fitness of the nurse in whose charge they left him.

That the Canadian Training Schools maintain as high an educational standard and graduate nurses who are as thoroughly qualified for their professional duties, as any country in the world, is a fact that should be well known among our American friends, since a considerable proportion of the highest appointments in their best hospitals are held by Canadian graduates. During the President's illness it was no alien sympathy and interest which Canadians felt, and we doubt if his death was more deeply deplored or caused more sincere sorrow in the great republic itself than throughout the Dominion of Canada. The general sympathy displayed seemed to draw closer the two great branches of the English speaking

people on this continent and its effect will not be lessened by any such exhibitions of puerile bigotry as we have referred to. It may possibly interest the writer of the editorial to learn that Miss Maud Mohan, of Brockville, the nurse in question, was alien only in birth, not in training, as she was trained in the Buffalo General Hospital, graduating from that institution in 1898, after which time she continued her professional services under Dr. Roswell Park.

EXPERT MEDICAL TESTIMONY.

THE large number of medical experts retained by the Crown and Defence respectively in the Sifton murder case, and the divergent opinions expressed by them on examination, resulted, as it usually does under such circumstances, in the confusing of the Court and jury rather than in clearing up the difficulty, so that the presiding justice in his charge to the jury, instructed them in arriving at a verdict to practically disregard the medical evidence altogether, allowing the opinions on the two sides to balance each other. This is certainly not a satisfactory state of affairs, and reflects no credit either on medical science, or on the individuals connected with the case. The fact that the doctors differed is heralded abroad and forms the text from which our lay contemporaries read sermons to us on the uselessness of medical evidence in general, and the characteristic tendency of doctors to disagree. It is only proper, therefore, that we should ask ourselves wherein the fault lies, and what is the remedy for such a condition of things? There is probably no duty falling to the lot of the medical practitioner which is more disagreeable, and none wherein he appears to less advantage than in offering expert testimony. That the present system of calling medical witnesses by the opposing side is unsatisfactory, ineffective in its purpose, and often derogatory to the profession itself, has been repeatedly pointed out by medical societies, medical journals, as well as by interested individuals. That the medical expert should be calm, deliberate, nonpartisan, unprejudiced, uninfluenced by personal feelings, and judicial in the highest degree, is generally recognized and insisted upon, but surely retaining him by the opposing sides, placing him in the witness box as an advocate, proposing the most difficult and abstruse problems for him to unravel on a moment's reflection, badgering him by opposing counsel, getting his opinion on statements of the case distorted to best suit the theories

which each side is attempting to establish, this is surely not conducive to a frame of mind fitted to express an accurate, well-thought view of the case, nor to best assist in bringing out the truth. Different propositions of the case, eliciting or suppressing just so much of the whole truth as the counsel thinks desirable, are placed before the medical witnesses, and the opinions expressed must differ insofar as the propositions to which they are an answer are different. Hypothetical propositions and distorted statements of the case are set up, and from the disjointed and often wholly unconnected answers received, most unwarrented conclusions are drawn. How opinions obtained in such a way can be of real value it is difficult to conceive, but surely it is the medical expert's misfortune rather than his fault that he should be placed in so unenviable a position.

To overcome the difficulties mentioned various remedies have been proposed. The appointment of a sworn commission of competent medical experts, as unbiased and judicial as our judges themselves, to whom would be referred the various questions requiring elucidation from a medical standpoint, and who would submit a complete report on the case, stated in the plainest language, with the conclusions arrived at, and the reasons on which such conclusions were based would, we are satisfied, be more in keeping with the dignity and purpose of the duty required of the expert, and more fruitful and satisfactory in its results in the interests of law and justice. The matter is one urgently demanding the attention of those having power to deal with it, and we trust that a weakness in our judicial system that has long been recognized may receive early rectification.

SCIATICA AND ITS TREATMENT.

THERE is probably no common disease that comes under the management of the medical practitioner that is more tedious and trying to both the patient and his attendant than sciatica. Various measures are set forth by different authorities, based on their experience, usually limited, as certain cures for the condition. These at times yield results so brilliant as to lead the practitioner to believe he has at last found a specific remedy, and again as signally fail to give any relief. These apparently contradictory results are largely due to the failure to recognize the fact that clinically, sciatica is not a disease, *per se*, but a symptom of various conditions differing in their course and requiring entirely different treatment.

Three principal forms may be mentioned. One is a functional neuralgia involving the sciatic nerve, often dependent on some lowered constitutional condition. This form often yields rapidly to appropriate treatment directed towards building up the general health, to the coal-tar antineuralgics as phenalgin, etc., or to anodyne injections into the nerve itself. Another form is due to pressure on the nerve by a tumor, an overloaded bowel or inflammatory collections, and here of course, the only rational treatment is to remove the cause. The importance of pressure from fecal accumulations in the rectum is suggested by the much greater frequency of sciatica in the left side.

The most frequent and intractable form of the disease, however, and the condition to which many would strictly limit the term sciatica, is an interstitial neuritis or perineuritis. This may be of all grades of intensity from the mildest forms associated with slight pain and tenderness, elicited only by certain movements, to the most severe cases accompanied by excruciating pain and tenderness and wholly incapacitating the sufferer. To expect to cure such a case as this by means of the remedies successful in the neuralgic form, is to doom ourselves to disappointment. Severe inflammations in any organ or tissue do not admit of instantaneous or even rapid cures. The treatment must be adapted to the severity and stage of the inflammation, always remembering, however, that some indiscretion may transform a mild into a severe case. In the acute stage absolute rest in bed, the limb fixed on a splint and kept warm, is certainly the rational method of treatment. Counterirritation over the course of the nerve, especially in the region of the sciatic notch by means of the cauter, fly blisters, iodine liniment or mustard are all useful adjuvants. Acupuncture by means of needles or injections of sterilized water, normal salt solution, cocaine, morphine may all assist. When the acute symptoms have subsided, careful massage over the nerve, pressure at the notch to break down adhesions, stretching the nerve by extending the leg and flexing the thigh on the abdomen, or the use of galvanic current may all be tried in intractable cases. Any rheumatic, gouty, syphilitic, malarial or other constitutional taint must be carefully sought for and the remedies appropriate for each exhibited, and in severe cases, prolonged, patient treatment must be followed out to effect a cure. Cold, wet or exposure are often the exciting causes in these cases and too much care cannot be exercised in guarding against them.

It must be rare indeed that surgical interference in cutting down upon and stretching the nerve will be indicated, as such procedure except in breaking down adhesions, has rationally little to commend it that

cannot be obtained by simpler methods. The possible co-existence of two or more of the factors capable of producing sciatica should always be borne in mind in particular cases..

The use of superheated dry air as in the Tallerman method, of Turkish baths, or mineral baths, in conjunction with massage, will prove of use in certain instances.

THE PREVENTION OF VENEREAL DISEASE.

A SUBJECT of perennial importance to the State in all civilized communities should command public attention. The exclusion by quarantine of foreign pests, plague, leprosy, smallpox, the compulsory reporting of contagious disorder, ever latterly of tuberculosis, the isolation at enormous expense, both to the State and the individual, of sufferers from various contagious or infectious disorders, all go to show that scientific research and its lessons have more or less correctly and thoroughly influenced the lay mind and produced with the consent of the public, measures which seriously interfere with the liberty of the individual and cause in semi civilized communities violent outbreaks of ignorant prejudice and opposition. It is not likely that many of the profession would be found to gainsay the statement that civilized communities suffer more both in actual disease and its organic results to both parent and children, and in the restriction of the procreation of the race as the result, from venereal diseases than they do from any of the plagues most dreaded, shown by such measures as above mentioned, so well controlled. In semi civilized or savage communities the ravages of syphilis and gonorrhœa are less severe, partly no doubt because wedlock or its substitute, concubinage, can be more lightly undertaken because of the less responsibility it brings with it in such a community, while the sophistication and social restrictions of a more highly organized community make it less possible for the male to support the female in the style and circumstance which they desire. In consequence of our knowledge of the prevalence and disastrous results of disease of this kind, we of the medical profession have, with few exceptions and they negligible, come to hold the same views as to the duty of the State towards these as towards other contagious disorders. Have we succeeded as well with the public, in educating them to sensible views on the subject, in which neither prudent nor false modesty, nor mistaken and ignorant views of

duty in the premises, shall prevent proper legislation? The answer can be only that we have failed. The public in all Anglo-Saxon communities, still hides its head in the sand, or holds up its hands in holy horror, if the existence even of such a menace to the State be spoken of, or the evil be made respectable (save the mark!) by being put under legal control as countless other evils are and made none the less evil in the process.

The evil to which we refer is not prostitution but venereal disease, and if to check the one, the other be made the subject of legal enactment and control, being its chief procuress, why object? The profession has much to do to bring up the public mind to the point of broad, intelligent tolerance to which we have attained by dint of our daily routine contact with life in those phases of which we see so much more than the public does. One is reminded of the beautiful sweet reasonableness of that type of "medical mind," Sir Thomas Browne, who lived in Stuart times and saw the furies of the Revolution and the wild unreasoning hate of the public parties of his day, yet contemplated it all with such kindness of soul. In one of his works—the title stamps it for a physician's work, "*Religio Medici*, or the Christian Religion, as Professed by a Physician Freed from Priest-Craft and the Jargon of Schools,"—he has the following passage bearing, not singularly perhaps, on this very subject:—"It moves not my spleen to behold the multitude in their proper Humours, that is, in their Fits of Folly and Madness, as well understanding that Wisdom is not profaned into the World, and it is the Privilege of a few to be virtuous. They that endeavour to destroy vice, destroy also virtue, for Contraries, though they destroy one another, are yet in Life, Friends to one another. Thus Virtue (abolish Vice) is an Idea: you must have both in the World, or neither one nor the other. The Clergy addressed Prince Maurice, when he was in the Country, desiring that he would banish all Whores out of the Army. The Prince answered them, That he would do with all his Heart if you will teach me how I may keep my Soldiers together afterwards."

If the temper which informs these sentiments were to be found in the people at large, prostitution and its attendant diseases would be soon as effectually controlled as smallpox or plague. For one must once again point out that the wise and sensible view to take of an evil is that half a loaf is better than no bread, that one must be content with the best at present attainable, even if that be far short of the theoretical best, and allow evolution to work by her usual means, remembering that whether in the constructive or the destructive sense "the mills of God grind slowly."

Prophylaxis by treatment alone is not enough. It may indeed be fairly held that it is a gross prostitution of Science to deliberately inform the public of measures which will tend to make illicit and doubtful intercourse safe. For those to whom have been assigned, or who have assumed, control of the morals and religion of the human animal, though sometimes wrong in their views as to the methods to be employed, are doubtless right as to the end to be attained, which is the universal prevalence of the sanctions and prohibitions of the seventh commandment. The interference of society with the views and practices of the individual in this matter may and should take two directions, private or corporate charity and effort at Social Reform, and legal enactment.

Morrow, in *Phila. Med. Journal*, April 6, '01, writes with eminent good judgment:—"Violent measures must always defeat the object in view, because they are of necessity intermittent and spasmodic. Violence is incompatible with the sustained and continuous effort required to combat this evil.

"I. The social reformer can accomplish more by measures for the amelioration of the social condition of women; by throwing stronger safeguards around minors, especially the orphans and unprotected; by establishing homes for the reception and reclaiming of fallen women; and by furnishing means and opportunities for the rehabilitation of those wishing to reform.

"II. The arm of the law may be effectively invoked in preventing scandalous public provocation; in suppressing the affluents of vice—the wine shops, low concert- and dance-halls, and other disreputable resorts; in making the punishment for the seduction of minors more sweeping by raising the age of consent to 21 years; and by meting out the severest punishment against the purveyors of vice—men and women who make a trade of dealing in human flesh by enticing and selling into the slavery of prostitution innocent and unprotected young women."

The profession can secure the good end only by the education of the public mind and conscience to the point of securing legislation on these questions. The public conscience should be left perhaps to its proper guardians, as no system of legal enactments can ever take the place of proper individual views and practice in a matter with which the future of the race is so indissolubly bound up.

J. T. F.

EDITORIAL NOTES.

WE observe that a large American concern, with a medical man at its head, has broken ground in this Province, and opened a branch in London, Ont. While the schemes and products of this concern have been largely advertised and used in this country in the past, and pushed with a vigor that is purely commercial, we are struck by the barefacedness of a "reader adv't" that appeared recently in the Toronto daily press, in which, after a half-column of more or less scientific disquisition upon digestion, particularly of the starches, the company ends up as follows: "The Canadian company is pledged to devote all its earnings over a very small percentage of profit on the money invested to non-sectarian medical missionary work in Canada." We, as professional men, are not called on to protest against dishonest commercial methods *quâ* commercial, but it is very much our business to protect the fraud-loving public from such loathsome cant, and to protest when our professional prerogatives are intruded upon, in so barefaced and utterly dishonest a style. The appeal to the religious feeling, too, adds to the detestable character of the thing. The profession should refuse to allow the use of such a company's preparations by their patients, as they are thus practically made the agents of the company. Carelessness in matters such as this is largely what has made possible the general disposition, seen in publications such as *The New York Life*, to belittle the character and standing of the profession in the United States.

One of the patent medicines which is in vogue at present, the result of a free and unscrupulous use of printers' ink, recently had in the Toronto daily press a photograph of a "Toronto lady," who, according to the advertisement and her appended testimonial, "was taken very sick about three years ago with gall stones in the bladder." She had one of the best doctors in the city, but her case "baffled his skill." He has our sympathy. This nostrum is also the property of a Chicago company, with a Toronto company to push its sale in Canada. There can never be much real sympathy or confidence between the medical profession and the chemists while the latter lend their countenance to this sort of thing.

A Michigan subscriber writes to ask for a reliable work setting forth what Osteopathy is and what osteopaths practice. Fortunately this new school of exploiters of the ignorance and credulity of the public have not found Canada a very fruitful field for their labors. We have

very few of them here, and consequently we know little about them, their teaching or practice. A good authority defines Osteopathy as "a system of medicine which regards all disease as due to defects in the bones or joints and remediable by manipulation of these parts." Their treatment consists largely in massage and movements of the bones and joints. Like all systems teaching an exclusive dogma, there is a grain of truth and merit mingled with, or underlying it, which makes the error more dangerous. They have a college in Chicago, granting a diploma "Doctor of Osteopathy," where no doubt our correspondent would have the tenets of the system set forth in their most alluring light. He wisely disclaims any intention, however, of following their practice but quite as wisely, we believe, wishes to know all about them.

THE BRITISH COLUMBIA MEDICAL ASSOCIATION.

The second annual meeting of the British Columbia Medical Association was held in the Legislative Buildings, Victoria, B.C., on September 5th and 6th.

There was a good attendance, and the President, Dr. J. C. Davie, of Victoria, occupied the chair. Dr. Eagleson, of Seattle, was present as a representative of the Washington State Medical Association.

Among the papers read may be mentioned those by Dr. McKechnie, of Nanaimo, entitled "Notes on Midwifery," and that by Dr. Fagan, Secretary to the Provincial Board of Health, on "Tuberculosis," who also presented for the Society's consideration a draft of the regulations which it has been proposed to put in force for the prevention of this "white plague."

A number of new members were elected and a large amount of general business was transacted.

The Dominion Government steamer "Earl" was placed at the disposal of the members, who visited the Quarantine Station at William's Head, where they were much pleased with the completeness of the arrangements for disinfecting vessels and their cargoes. The leper colony at D'Arcy Island was also inspected, and the four cases at present there excited much interest. The thanks of the Association are due to Dr. Watt, the Government officer, for his courtesy on those occasions.

The officers elected for the ensuing year are:

President, Dr. R. E. Walker, New Westminster.

Vice-President, Dr. W. J. McGuigan, Vancouver.

Secretary, Dr. J. M. Pearson, Vancouver.

The meeting next year will take place in Vancouver.

CORRESPONDENCE.

ST. CATHARINES, October 1st, 1901.

To the Editor of THE CANADA LANCET.

I observe that Prof. A. McPhedran, M.D., Toronto University, admits his presence at the International Congress on Tuberculosis in London but makes no mention of any part taken by him in its proceedings. The full reports of those proceedings in the weekly medical journals are evidence of his silence. The Professor expresses regret that the Gravenhurst Sanatorium was not represented at the meeting. Others entertain a like sentiment.

Greater regret, however, is justifiable at the neglect of the Medical Faculty of Toronto University to take part by any representatives in the important deliberations of that large and important assembly. Representative authorities in Medicine from all the European nations, many States of the American Union, the Province of Quebec, even from Egypt and antipodean Tasmania, read papers, delivered addresses, and offered opinions and advice bearing on the great White Plague and possible measures for its extermination.

No voice was heard from the Provincial University of Ontario. Professors Adami and McEachern of the McGill College, Montreal, well upheld the standing and authority of that centre of medical science.

Another Provincial body, the Provincial Board of Health, also failed to be heard at the Congress. Had the Board sent Dr. Bryce, the able Provincial Medical Inspector, to the Congress as it ought, Ontario would have taken a prominent, creditable and useful part in its deliberations.

Please insert the foregoing and oblige

LUCIUS S. OILLE.

PERSONAL.

Dr. Mac. Crawford, formerly resident physician at St. Michael's Hospital, Toronto, has opened an office in Toronto.

Dr. J. F. Uren, Church St., Toronto, and Dr. Chas. P. Lusk, of College St., have been appointed demonstrators of anatomy in Trinity Medical College.

Dr. Perry G. Goldsmith, of Belleville, has returned from England where he spent six months as house surgeon in the Central London Throat and Nose Hospital.

Dr. Adam Chalmers (Trinity '92) and Mrs. Chalmers, of Oil Springs, have returned from Europe where the doctor has been spending the summer doing hospital work. Dr. Chalmers is opening an office in Sarnia.

Dr. E. S. Ryerson and Dr. D. M. Anderson, of the resident medical staff the Toronto General Hospital, have returned from their holidays and tell remarkable tales of their success in slaying all kinds of game which the law allows to be preyed upon at this season.

Dr. H. A. McCallum, of London, gave a dinner to some sixteen of the expert medical witnesses from Toronto and London at the London Club during the progress of the Sifton Trial. The fact that the Crown and Defence sides of the case were about equally represented, did not in the least interfere with a most pleasant evening.

Dr. F. H. Brennan, formerly of Peterboro and afterwards of Johannesburg, is spending a while in Toronto at Trinity Medical College, preparatory to going to England, where he will spend a year in special work. Dr. Brennan was forced to give up a lucrative practice in Johannesburg at the outbreak of the war and offered his services to the Royal Canadian Regiment. He purposes returning to South Africa when peace is restored.

BOOK REVIEWS.

TEXT BOOK OF PATHOLOGY.

By Alfred Stengel, M. D., Professor of Clinical Medicine in the University of Pennsylvania; Physician to Philadelphia Hospital, etc. With 372 illustrations. Third Edition. Philadelphia and London: W. B. Saunders & Co. Toronto: J. A. Carveth & Co. Price, Cloth \$5.00, Sheep or half Morocco, \$6.00.

Dr. Alfred Stengel's work on pathology is well known. It has reached a third edition in a very short time, for such works. This is readily accounted for on several grounds: the work is not too large, and yet not too condensed; it is written in a clear style, it is well illustrated; but most important the work is well up to date and trustworthy in its statements in the matters under discussion.

The first section of the work deals with general pathology. Under this division we have the etiology of disease, disorders of nutrition and metabolism, disturbances of the circulation of the blood, retrogressive changes, inflammation and regeneration, progressive tissue-changes, bacteria and diseases due to bacteria, and animal parasites and the diseases caused by them. The second section takes up the special pathology of the blood, the tissues, and the various organs.

Pathology is the science that deals with disease in all its aspects. Etiology, or the study of causes; morbid, or pathologic anatomy, the study of structural changes; and morbid, or pathologic physiology, the study of disturbances of function are the sub-divisions from which the author approaches his subject. Disease is defined as abnormality in structure, in function, or in both combined. It is stated that it is doubtful whether alteration of function can occur without some alteration in structure, though none may be found by the most precise methods. The

symptoms of disease are the expressions of abnormal functional activity and come under the head of pathologic physiology.

The etiology of disease is discussed under the headings, predisposing causes, such as heredity, the lack of immunity against certain diseases, acquired characteristics. Determining causes are grouped under traumatism, heat, cold, atmospheric pressure, poisons, living organisms, parasites, intoxication from within the body.

In discussing tumors the author speaks of lymphadenoma as most likely due to some form of organism. Tubercle bacilli, micrococci and various bacilli have been found. Sarcomatu yield the best evidence of the of the Cohnheim theory of embryonic rests. There is a close resemblance to tubercle in some respects. It is not improbable that lymphosarcoma is due to bacteria. On the etiology of carcinoma, the author states that Cohnheim's theory on the origin of tumors is less applicable to this form than to certain others. Much importance is attached to the influence of repeated injury as in smoking on the lip, but a single injury has probably little effect. The parasitic theory has not yet been proven. No bacterium has yet been isolated. The search for some protozoon has also failed so far. Nor does implantation prove its biologic origin. Where such experiments have succeeded, it may be only the reproduction of the cancer in the new host. The theory of a special dyscrasia is dismissed as having no foundation in experience as the cause of carcinoma.

Immunity is handled ably and with much interest. It may exist as natural immunity. Thus the dog is refractive to anthrax, or in the case of lower animals against syphilis. Immunity may be acquired from a previous infection, the natural acquired form. It may also be gained by artificial means. In some cases there seems to be a permanent adaptation of the organism. This is active immunity. In other cases it is temporary, and is called passive. The various theories of immunity are examined. The bactericidal power of the blood serum, or its power to modify the properties of the bacteria. The weak points in the phagocyte theory are mentioned. The theory, deduced from the clumping of bacilli as in typhoid fever, is also shown to be inadequate as an explanation of immunity. It is of two kinds, namely, against the germ and against the toxin. The side chain theory of Ehrlich explains the phenomena of immunity better than any other. By this theory, the toxin has a two-fold nature and composition, one the poisonous action, the other the combining power.

Rabies, many cases of purpura, and acute articular rheumatism are regarded as due to germs, though they have not been discovered, unless Achalme's bacillus be that of rheumatism.

The diseases of the blood are well written. Leukocytosis is stated to be due to inflammation, infections, cachectic conditions, malignant-tumors, hemorrhage, mechanical and thermal causes, the use of certain medicines. Progressive pernicious anaemia is caused mainly by depressing emotions, fright, exposure, unsanitary surroundings. But more especially by pregnancy, lactation, intestinal diseases and parasites.

In dealing with arteriosclerosis the author cites as causes syphilis, gout, chronic alcoholism, chronic nephritis and generally chronic intoxications. Long continued excessive muscular exertion is a cause. He discards the view that the thickening of the intima is due to the direct act-

ion of the toxic agencies on it. The loss of elasticity and the degenerative changes in the vessel walls are the result of the primitive causes, and the hyperplastic process in the intima and other parts of the vessels is the result of such loss of elasticity.

General progressive paralysis is regarded as most likely caused by some infectious state. The progress and symptoms of the disease point to this. The great majority of the cases have been preceded by an attack of syphilis. There are some cases, however, that give no such history.

It would be impossible to review the work in further detail. It is well written and the subject matter brought well up to date. The publishers are entitled to commendation for having gotten up the work in such excellent form.

JOHN FERGUSON.

PATHOGENIC BACTERIA.

A Text Book upon the Pathogenic Bacteria for Students of Medicine and Physicians by Joseph McFarlane, M.D., Professor of Pathology in the Medico-Chirurgical College, Philadelphia; Pathologist to the Medico-Chirurgical Hospital, Philadelphia; Fellow of the College of Physicians of Philadelphia, etc. Contains one hundred and forty-two Illustrations. Publishers, W. B. Saunders & Co., Philadelphia. Canadian Agents, J. A. Carveth & Co., Toronto, Ont.; in Cloth, \$3.25.

The subject of bacteriology is, to-day, of growing importance, not alone to the student and laboratory professor, but to the practitioner as well.

The subject is too vast in its entirety to be grasped by the everyday, busy physician and surgeon, thus the need of such a work as the above on Pathogenic Bacteria. The book will be found of very great help in ordinary clinical laboratory work.

The work is in two parts. Part I contains a short and very complete history of bacteria, methods of cultivating the technique of staining and microscoping, etc.

Also chapters on infection and immunity, both of which are particularly instructive and pregnant with facts readily adaptable in the treatment of the acute specific diseases met with daily.

In Part II the specific diseases and their bacteria are treated at greater length, the chapters on Tuberculosis and Diphtheria being specially worthy of one's time and study.

J. T. F.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY.

By W. A. Newman Dorland, A.M., M.D., Assistant Obstetrician to the University of Pennsylvania Hospital.

It is not surprising that a second edition of this valuable volume is so readily called for. The aim of the author to place before the profession a dictionary of convenient size, not too profuse, and thoroughly up-to-date, has surely been realized.

The revised edition is most complete, and it appears that nothing has been overlooked in its compilation.

Certain portions are elaborately worked out. The arteries and nerves, for instance, are tabulated alphabetically with origin, distribution and branches; the muscles are similarly arranged, giving origin, insertion, nerve supply and action. Veins are also tabulated.

Staining methods are fully given with direction for making the solutions required. Under Spinal Cord is a useful table giving the localization and functions of the Spinal Segments.

Bacteria, Bacilli, Unicocci under their several headings are enumerated in an elaborate manner.

The colored plates are well produced. They appear under the sections on blood, emulogy, karyokinesis, arteries, veins, nerves, spinal cord, etc.

Pronunciation, derivation and definition are everywhere clearly set forth. At the close of the volume are tables of the different weights and measures, with comparative values.

The author is to be congratulated upon the production of a work thoroughly up-to-date, sufficiently full for all practical purposes, yet not cumbersome. H. C. S.

DIET LISTS AND SICK ROOM DIETARY.

Compiled by Jerome B. Thomas, Jr., A. B., M. D., Instructor in Materia Medica, Long Island College Hospital; Assistant Bacteriologist to Hoagland Laboratory. Second Edition, Revised. Price, \$1.25 net. W. B. Saunders, Philadelphia. J. A. Carveth & Co., Toronto, Canadian Agents.

This book of detachable diet lists contains a list of the foods allowable or indicated in the management of albuminuria, anaemia, and debility, constipation, diabetes, diarrhoea, dyspepsia, fevers, gout, obesity and tuberculosis with an appendix dealing with the technique of rechal alimentation and the special preparation of foods for such use. Any one who appreciates the difficulties in the way of carrying out the proper dieting of their patients will find the most valuable aid from these lists. They are carefully prepared, and spaces are left for any special instructions the doctor may wish to give in any particular case. They will prove an invaluable aid to the practitioner. A. G. F.

THE READY REFERENCE HAND BOOK OF DISEASES OF THE SKIN.

By George Thomas Jackson, M.D. (bol.), Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons, New York; consulting Dermatologist to the Presbyterian Hospital, New York, etc., etc. 642 pages with 80 illustrations and 3 plates. Fourth edition, thoroughly revised. Lea, Bros & Co., New York and Philadelphia. Canadian Agent: D. T. McAinsh, Toronto.

In Part I. the author reviews briefly the anatomy and physiology of the skin. A section is devoted to general remarks on diagnosis and another to treatment, with a brief description of the various remedies employed in skin affections. Now follows a classification of skin diseases which, for so difficult a subject, is very good. Various "don'ts," in reference to the treatment of skin diseases, conclude the first part.

In Part II. the various diseases are clearly and concisely dealt with. The synonymns are complete and the descriptions good. One cannot do them justice in so brief a review as this. The sections on Dermatitis Medicamentosa is very good.

The appendix gives directions for various baths, and also a number of formulæ, the value of which, the author claims, has been proven.

The illustrations and press work are above the average.

Altogether this volume will be of distinct value to students and the general practitioner.

D. M. G.

DISEASES OF WOMEN.

A text book on the Diseases of Women, by Henry J. Garrigues, A.M., M.D., Gynecologist to St. Mark's Hospital and the German Dispensary of New York City, consulting Obstetric Surgeon to the New York Mothers' Home and Maternity Hospital, etc., etc. Philadelphia: W. B. Saunders & Co. Third edition. Canadian Agents: J. A. Carveth & Co., Toronto. Net price: cloth, \$4.50; sheep or half morocco, \$5.50.

A text book for students and practitioners: a very complete book for the former, and a very useful book for the latter.

In many medical works, one may as well commence at the last chapter as the first. Not so with this volume. For the student, it leads him on by easy stages through the development of the female organs of generation to the anatomy and physiology of the same parts, and from this to "Etiology in General," which is followed by "Examinations in General" and by "Treatment in General." This part of the work takes up about two hundred and seventy pages, when the "Special Division" is reached.

The chapter on anatomy is very complete, and well worth the perusal even of an anatomist. Anatomy is not usually entertaining, but the reader will find it so in this work. The chapter on physiology is short, but well put, and will be found useful to the general practitioner—particularly the symptoms of the menopause, which are given fully. The young general practitioner will read this portion with pleasure, as it will relieve his mind of the cause of many symptoms, which are of every day complaint at that period and so difficult to relieve.

The chapter on "Examinations in General" covers the principal points which are necessary for a correct diagnosis—illustrating the method of getting verbal information from the patient; postural position, with illustrations; and illustrations of the instruments used for the purposes of diagnosis, and the method of using them.

The chapter on "Treatment in General" covers considerable space, and prepares the readers for the parts following, namely: "Special Division," in which diseases of the different parts of the female organs are taken up in the following order: Diseases of the Vulva, Vagina, Uterus, Fallopian Tubes, Ovaries and Pelvis.

There is also an appendix on sterility, lack of orgasm and intestinal surgery.

The book is fully up-to-date. The illustrations are numerous, but not of the picture book style, which is to the book's credit.

L. B.

THE CANADA LANCET

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No. 3.

TYPHOID IN ITS RELATION TO MILK SUPPLIES.

BY E. B. SHUTTLEWORTH, Phar.D., F. C. S., Toronto.

IT is unnecessary to offer any confirmatory evidence of a fact so well established as the communicability of typhoid fever through the medium of milk. The following instance may, however, throw some light on the modes by which milk may be contaminated, the liability to infection through this source, and the possible spread of the disease by the ordinary channels of distribution.

During four days of the summer of 1899 there were reported to the Health Department of Toronto, five cases of typhoid fever, three of which were on the same street; all residents of the same district, and all obtaining their milk supplies from the same dairy. An investigation was at once made as to the condition of the premises, and the health of the occupants, not only in the city, but on the four farms from which the milk was procured. As a result a number of alterations and repairs were ordered to the dairy, and certain regulations imposed as to the cleansing of ordinary receptacles and the separation and sterilization of bottles returned from infected houses.

Some of these requirements were fulfilled, though without the constant presence of an inspector it was obviously impossible to insure a thorough compliance, more particularly in regard to sterilization and cleansing of utensils and bottles.

Six more cases were reported during the succeeding month, and more stringent precautions were enjoined, but, at this stage, as well as the preceding, the origin of the outbreak was open to doubt, inasmuch as nearly all the cases were on the same sewer area, while in other parts of the city, largely supplied by the dairy in question, there was only one reported case. It was also noticed that in the affected districts there were numerous cases on the routes of other milkmen. These circumstances pointed to a local cause, other than infected milk, and though the authorities did not relax their efforts to require all that the law permitted, or their authority could command, they felt that the position was exceedingly uncertain.

During the next month there was a comparative lull, but, towards the close, there occurred a number of cases in various parts of the city remote from the first district. It was therefore decided to require the removal of the dairy from the original premises to a new location, a block or so distant, and the complete abandonment of the old implements and bottles. After considerable legal trouble this was accomplished, with the result of bringing about an entire disappearance of the disease among the customers of the dairy. Two cases developed a few days after the change, but at that time they were doubtless in the incubative stage.

For the three months there were twenty-one cases reported from this milk route, and, by a careful house-to-house inspection, and a search in the wards of the city hospitals, there were discovered twelve unreported cases, making thirty-three in all, from a route on which the daily consumption of milk was about one hundred and four gallons, distributed among some three hundred and fourteen customers. If other city dairies had been affected in like degree there would have been during the three months 4,147 cases of typhoid fever. As a matter of fact there were only 139 reported cases, including those from the dairy in question.

The initial source of infection remains undiscovered, though much time and thought were bestowed on the enquiry. It appears to have operated discontinuously, and have been connected with the premises, utensils, or bottles, as proved by the disappearance of its effects when the change was made.

The fact that cases of typhoid fever are not always reported to the department interfered very much with the investigation for not only was the full extent of the outbreak in this way concealed, but it so happened that the original case was not thus made known, nor was that which first occurred outside the district. Another bar to decided action was realized from the peculiar requirements of sec. 10 of the Municipal By-Law. The existence of infection in milk can be but seldom definitely demonstrated, but such proof is presumably required before the authorities can proceed. The milk dealer invariably falls back on this view of the case, and holds his legal position invulnerable so long as it is not proved that the suspected liquid contains "any matter or thing liable to produce disease." In any case he has only to fear the revocation of the permit of the Health Department, while, in Toronto, the annual license of the Police Commission seemingly remains in force. This confliction of authority gives rise to much uncertainty, and a justifiable unwillingness to open up a legal question which in other quarters has proved very troublesome.

It may be said that ineffectual attempts were made to isolate the bacillus typhosus from the milk. When one reflects that, of over one

hundred gallons daily only one bottle may be infected, this result is not surprising.

In one of the months above referred to, and in the same affected district, there occurred nine cases of typhoid among the patrons of a small dairy, who, for the most part, went for the milk themselves, carried it in their own vessels, and only purchased it occasionally. The first three cases were not reported to the department, the first noticed being that of the attack of the proprietor, who was sent to hospital, and the dairy thoroughly inspected, and placed under special regulations, with the effect of terminating the outbreak. The actual source of infection could not be definitely traced, but it was probably to be attributed to contaminated vessels or utensils in the dairy.

Another instance was furnished by a dairy outside the city limits, in which the milk—some forty-four gallons daily—was produced by seventeen cows, which were kept on the premises, and pastured near by. Three cases of typhoid were reported during three days, and three others developed five days later. The dairy was visited immediately after the first report, and was not found in good condition. The most marked features were the absence of a sufficient supply of water, owing to the pump having become dry. There was also a very roughly constructed, pitless, and foul privy near the milk house, the latter being floored with rough boards bearing evidence of the transfer of much mud from the surrounding paths, no doubt including that from the privy. The removal of this closet to a distant location, the dressing of the site with lime, the deepening of the well, the thorough cleansing and lime washing of the milk house, and the sterilization of vessels and bottles, were ordered with good effect, as no more cases occurred.

It seems likely that the excrementitious matter in the open privy was the most likely cause of the trouble, though none of the inmates of the dairyman's house, or any of his employees, were suffering from any intestinal affection. It is, however, quite possible that a privy so easy of access might have been used by some perambulatory typhoid case. The transfer of germs by the feet of persons passing from the privy to the milk house, or by means of flies, which were numerous, might thus be easily accounted for.

One of the most interesting cases was that of a small dairy located in the sparsely populated confines of the city. This enterprise commenced with the keeping of one cow so that milk might be furnished for a family of eight young children. But ultimately three cows were added, and milk was furnished to some seventeen families in the neighborhood. Four of the latter were on the same day reported as having typhoid, and

a visit revealed the fact that there was another case of this class, besides five of the children of the milkwoman's family. All these cases were within a radius of two hundred feet.

On one side of a narrow house was a milk shed less than six feet square, containing a wash-tub with water, on which floated a tin dish-pan containing the supply of milk. Many flies thronged the little room, and some were observed sipping the milk. On the other side of the yard was a little structure, supposed to be a dry-earth closet, but which was full of semi-liquid matter which soaked the floor. Here were also countless flies indulging in an unlimited supply of typhoid excrement. Between the milk shed and the closet there was free intercourse so that flies could vary their diet, or perform any necessary ablutions.

Further investigations were, of course, made, and other possible modes of communicating disease revealed, but that mentioned was undoubtedly amply sufficient. The cows were ordered to be at once taken to the country, and the dairy was instantly closed, and so maintained until proper facilities were provided. There was, fortunately, no further development of the disease.

It is very difficult to trace out definitely the modes by which milk becomes infected, but I have little doubt that the use of unsterilized bottles is one of the most common, and perhaps even not second to this is the part played by flies, which are always abundant around dairies, particularly where there are privies, and when horses are kept on the premises.

OVARIAN EXTRACTS IN THERAPEUTICS.

Dr. Lucien Picqué claims that the treatment of nervous and physical disorders following operations on the female organs of generation (ovaries) by means of ovarian extract is founded rather on an ingenious theory of insufficiency of ovarian secretion in the system than demonstrated facts. While not entirely opposing this explanation for the nutritive and nervous disturbances following such operations he points out that similar disturbances may follow extra-genital operations, and may occur even in the male. He finds after studying 41 cases that the disturbances may be distributed under four classes: 1. hysteria; 2. post-operative psychoses; 3. neurasthenia, with hysteria; 4. neurasthenia, with post-operative psychoses.

He inclines to the belief that not the lack of ovarian secretion as the irregularities or suppression of the menstrual flow may be responsible for the disturbances, and finds that cases of hysterectomy, nephropexy, amputation of the breasts and even exsection of the shoulder in the male may be followed by similar symptoms. Hence, before resorting to ovarian therapeutics, he claims that the nerve specialist ought to be consulted first, in order to establish the proper diagnosis.—*The Post Graduate*.

TUMOR OF HAIR.

Weighing 1 lb. 7 oz. two feet in length, removed from the stomach of a woman, with recovery.

By HERBERT A. BRUCE, M.D., F.R.C.S., Eng.

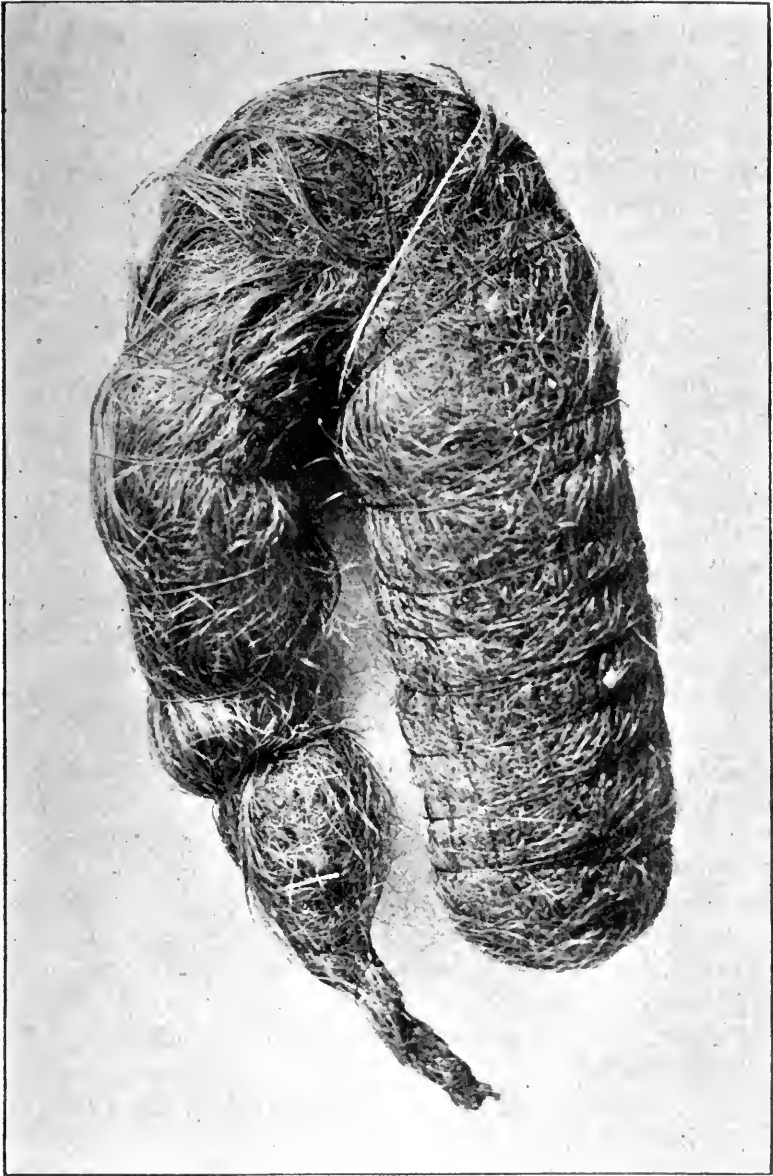
Assoc. Professor of Clinical Surgery, University of Toronto. Surgeon St. Michael's Hospital. Surgeon Outdoor Dept., Toronto General Hospital.

MRS. G. B. age 26, married six years, two children. A lump was noticed in the abdomen by the attending physician, two months previous to birth of last child. He thought it a twin pregnancy. The patient had no symptoms in connection with this lump. After parturition the lump was found to be unconnected with the uterus or any of the pelvic organs. The doctor then thought it was a displaced spleen. Different consultants were of the same opinion, or that it might be malignant disease of the stomach, omentum or kidney. On examination a lump could be felt and seen in the upper part of the abdomen, about 12 inches in length, the left border being slightly convex and the right somewhat irregular, but with a deep notch or sulcus in it. The lump was about 5 inches in width. It could be lifted forward and moved from side to side freely and downwards also to a less extent, until the lower end reached 3 inches below the umbilicus. It could be pushed up under the ribs on the left side, until it was almost out of reach. It seemed to be anchored somewhere behind the lower left costal cartilages. It felt very hard. No special discomfort was caused the patient by moving it about. There were absolutely no symptoms present apart from the patient's knowledge of the lump. She was never nauseated and had a good appetite. She was a little thinner than usual, but not more so than she had been after the birth of her first child. Dr. H. B. Anderson made an examination of her blood for me, and reported it normal, with no evidence of leukaemia. Three days before the operation she ate most of a chicken, stating that she did so because she knew she would not get solid food for some time after. When I examined her I thought I could make out splenic dullness, and while not being able to deny that the lump might be spleen, did not think it conformed quite to the shape of the spleen, and advised an exploratory operation. This I did at St. John's Hospital, on the 24th of July last, assisted by Dr. R. J. Wilson and Dr. Ross. Chloroform was given by Dr. Hendrick. On opening the abdomen in the middle line, the spleen and kidneys were found in their normal positions, but there was a large mass free in the stomach. On the anterior wall of the stomach, a greyish white area about the size of a ten-cent piece was seen. I could make out the mass to be lying free in the stomach and extending through the pylorus. It could now be made out to consist of a couple of limbs

meeting below at an acute angle and this could be bent like a joint. The portion extending through the pyloric end of the stomach, felt as if jointed. In fact it felt very much like an arm with the elbow below and wrist joint at pylorus. The stomach was brought outside the abdomen, and an incision made into it between 4 and 5 inches in length, midway between the curvatures. After removing the mass of hair, the opening in the stomach was closed by a continuous suture of catgut for the mucous membrane, and a continuous suture of silk for muscular and peritoneal coats, and outside this a row of Lembert's sutures. The after treatment was as follows:—8 oz. of hot salt solution every two hours. Nutrient enemata every six hours for first two days. Then salt solution discontinued, and nutrient given twice daily for two days, and then once daily for a week. Twenty-three hours after the operation sips of hot water were given by the mouth, gradually increased until in six hours two ounces of hot water were given. This was repeated every hour. Forty-eight hours after the operation the patient was given 1 oz. of milk and $\frac{1}{2}$ oz. lime water every hour. This was gradually increased until two days later the patient was taking 3 oz. of milk and 1 oz. lime water every two hours. Albumen water and barley water were added to the milk diet. For first 4 days after the operation 1/30 gr. strychnine was given hypodermically every 4 hours. The patient only vomited once after the operation. She sat up in bed on the 16th day, walked about the room on the 18th day, and left the hospital very well on the 20th day. She was then taking ordinary diet.

On examining the tumor, it was found to consist entirely of hair, twisted and intimately woven together, of a brownish color, and exactly the same shade as that of the patient. Single hairs were dissected out 10 and 12 inches in length. The mass measures 24 inches in length. The large end which lay at the cardiac end of the stomach is $6\frac{3}{4}$ inches in circumference. From this it gradually enlarges until at the angle it measures $8\frac{3}{4}$ inches in circumference. From the angle it gradually tapers until 15 inches from large end it is $3\frac{1}{2}$ inches in circumference, and $19\frac{1}{2}$ inches from large end it measures $1\frac{1}{2}$ inches in circumference. The latter part extended through the pylorus and into the duodenum to the extent of 6 inches. The latter $4\frac{1}{2}$ inches consisted of only a couple of dozen hairs and was covered with faecal matter.

I think I am right in considering this case rare, if not unique. Hair balls are sometimes found in the stomachs of ruminants, and I have a specimen of a ball of hair found in the stomach of a cow, and kindly loaned me by Dr. Smith of the Ontario Veterinary College. This is an average size, and weighs only 6 ozs. He tells me these are found in cows,



A TUMOR OF HAIR.

Weight 1 lb. 7 oz., two feet in length, removed from a Woman's Stomach (Bruce).

pigs, and sheep, and then usually in young animals, from licking one another. These balls have been found in the manger, having been brought up in the process of rumination, and dropped out of the mouth. These masses are called bezoars, or, if composed entirely of hair, tricho-bezoars.

My patient declares she has never swallowed her hair, and I would not consider her hysterical. There is no doubt, of course, that she did swallow this hair.

Her temperature never reached 100 after the operation, and was normal after the first three days. Pulse went up to 120 immediately after the operation, but in 24 hours was 110, and in three days was 80, and remained about this until she left the hospital. One of the most interesting and remarkable features of the case was the entire absence of symptoms pointing to any disturbance in the stomach. It is now three months since the operation, and she is enjoying the best of health.

In the Medical News of February 16th, 1901, Dr. Nathan Jacobson, of Syracuse, reports a case very similar to mine. His patient was a girl, eleven years of age. Unlike my case, she had evidences of gastric disturbance for about a year before the operation, such as the vomiting of frothy mucous, and had a considerable amount of colicky pains in the stomach. The photograph of the hair mass removed, which he calls a hair-cast, shows it to be very similar in shape to the one I am presenting. It is smaller, however, weighing 15 oz. His patient admitted that she had been in the habit of biting off the ends of her hair, from the earliest years of her life. At first she thinks she did it simply because she was nervous, but later she rather liked the tickling sensation produced by the hair in its transit to the stomach.

Dr. Jacobson, in reviewing the literature, finds 19 authentic cases where the patients have swallowed a sufficient quantity of hair to create within the stomach a hair-tumor. Only one of these was a male. Dr. W. G. Brewster, in the Boston Medical and Surgical Journal, reports a case in which an accumulation of hair became lodged in the small intestines, and produced intestinal obstruction. The patient, a girl of ten, survived the operation of enterotomy only five hours. The youngest patient was 10, the oldest 34. None of these patients were insane, and but few sufficiently nervous to be described as hysterical. In nearly every instance the habit of hair-swallowing was of years' continuance. In one case it had existed for 13 years, in another 15, 17 in a third, and 22 in a fourth. The stomach became gradually accustomed to the presence of the foreign body, and in many instances tolerated it without the slightest rebellion.

The largest mass of hair removed from the stomach, on record, is one weighing 5 lbs. 3 oz. Of the 19 cases, 10 were discovered post-mortem, and 9 upon the operating table. It is surprising that the discovery of the hair-cast was very unexpected. In not a single case had a correct diagnosis been made, and no physician or surgeon surmised that he had to deal with a foreign body in the stomach. As a rule the diagnosis was splenic or omental tumor, movable kidney, or faecal or other impaction in the transverse colon. As a rule the hairs had simply been bitten off the ends of braids or flowing locks, but in other instances hairs of great length were found. One woman was said to have pulled the hair out of the back of her head whenever she became nervous, rolling it up into a ball and swallowing it, while another deliberately swallowed her combings night and morning.

Croup.

The preparations of lobelia are very valuable from a therapeutic point of view. A few days ago I treated a very bad case of croup, in a child fourteen months old, with acetic emetic tincture every fifteen minutes, and the emetic powder on a larded cloth applied to the throat and chest. The father said he could hear the child's efforts at respiration at the stable, which was fifty feet at the rear of the house, the windows of the house being closed. After a few doses of the acetic emetic tincture the child was relieved, and made a good recovery.—*Ec. Review.*

An Ointment for Psoriasis.

Morgenstern (*Therapie der Gegenwart*, 1901, No. 6; *Fortschritte der Medicin*, August 15th) recommends this formula :

Rx	Salicylic acid.....	2 parts;
	Precipitated sulphur.....	10 "
	Zinc oxide	} of each.....
	Starch,	
	Vaseline.....	50 "

M.

Sage in Hyperidrosis.

Infusion of sage is again recommended for the treatment of hyperidrosis in tuberculous subjects as well as those suffering from leukæmia, rheumatic polyarthritis and typhoid fever; in thirty-eight cases where it was tried there were only two failures. Steep forty-five grains of sage leaves in half a pint of water and let the patient take a cupful in the morning, one during the course of the day, and still another before retiring at night—or the tincture of the leaves may be given in twenty-drop doses in the morning, and from twenty to forty drops at night. *Salvia officinalis* has a proper place in the front ranks of anti-sudorific remedies.—*Medical Week.*

BUBONIC PLAGUE AND CHINESE IMMIGRATION.

BY A. C. LAMBERT, M. D., C. M. (TRIN.)

Late Surgeon R.M.S. "Empress of China."

WITH another serious outbreak of Bubonic Plague in Hong Kong this year, and with every prospect of a repetition of the same next summer it is very essential, in view of the increasing tide of Chinese immigration to Canada, that the profession and public understand thoroughly the extreme danger which menaces them of having, sooner or later, to wrestle with the disease on their own shores, as their sister Colonies of Australia and the Cape have already been forced to do.

It is not with the intention of questioning the present methods employed by the Canadian Government at their Western Quarantine station at William's Head, Vancouver Island, that I have ventured to discuss this subject. Nothing could be more thorough and effectual than the superheated steam and formaldehyde disinfectors, which constitute, with bichloride baths for the passengers, the principal appliances in use at William's Head; and no one could be more painstaking and energetic in the discharge of his sometimes not altogether pleasant duties, than is Dr. Watt, Inspector of Quarantines for British Columbia and Superintendent of the above station. The procedures are rational enough and undoubtedly accomplish the work required of them, i. e. the destruction of all forms of bacterial and parasitic life, but it is my contention that all this disinfection and fumigation are employed at the wrong end—at Canadian ports instead of at ports of departure in China or Japan. And it is this application of excellent methods at the wrong end which constitutes, to my mind, the weak point in our armor of quarantine, through which the plague is going to strike us. And why?

Before answering this natural query, perhaps a very brief resumé of the several epidemics of plague in South China might be of interest. There have been three serious epidemics of plague in Hong Kong, Canton and the surrounding districts. The first was in 1894, the second in 1896 and the third during the present year 1901. During the intervals between these severe epidemics plague has not been entirely absent from South China, although the number of cases occurring yearly has varied considerably. When not epidemic, it is practically endemic.

Plague is not diminishing in Hong Kong and its vicinity, owing to various causes, some of them perhaps errors of judgement on the part of Colonial Administrators, others natural but difficult to remedy, such as the emigration of rats from destroyed buildings to others in the vicinity; or the ever-spreading Chinese population, which is beginning to break from

the confines of the native quarter and over-flow into districts hitherto occupied by Europeans only ; of the presence but some hundred miles distant of that huge Celestial rabbit-warren, Canton, with its easy connection by water with Hong Kong and the resultant large and lucrative trade, difficult enough to supervise and impossible to abolish, without signing the death warrant of Hong Kong as a trade centre. With all these causes severally and collectively reacting against any scheme of sanitary reform, bubonic plague is gradually but certainly gathering the whole of this ill-fated colony into its grasp, and is beginning to take its toll of victims from the ranks of Europeans and non-Chinese residents, as remorselessly as it does from the natives. Houses, hotels and places of business in every quarter of the colony are being closed by the authorities on account of cases occurring therein, while hundreds of natives are leaving the colony in fear.

With this state of affairs on shore, our Canadian Steamship Companies are filling their steerages as full as they can legally be filled with Chinese emigrants drawn solely from the towns in which plague is raging most virulently. To give them their due, the above companies do endeavor to prevent any sick or suspiciously unhealthy person from travelling on their ships, and to this end institute a searching examination, often two or three times repeated after intervals of a few hours, of all native passengers and sailors. The examination is conducted by medical men resident in the colony and having much experience in tropical disorders. The passengers and crew are usually under medical observation for about twenty-four hours before the vessel departs on her voyage and no shore liberty is allowed from the time the inspection begins.

This method certainly reduces the chances of infectious diseases breaking out on board the vessel during the voyage, but the reduction is very slight. Should any infected persons in whom the period of incubation was not completed before the vessel sailed, and were therefore passed as healthy by the examining physicians, be on board, it is almost a dead certainty that the case or cases will develop before the vessel leaves her last Japanese port, and the resultant detention and disinfection will take place in that country, and by the time she reaches Canadian shores all danger will be over ; and, as the Japanese are very thorough in their methods of disinfection, she could proceed without further detention provided no further cases had developed en route as it would be at least ten days, and generally more, since she left the last port to proceed on her 4,000 miles across the Pacific Ocean. This is not a case in which danger menaces the Canadian community.

Let us, however, take a suppositious, but not at all unlikely case. We will suppose that amongst the crowd of some three hundred odd

Chinese coolies on board our vessel, that there is one of them who has experienced the not uncommon misfortune of losing, a few days since, one of his nearest relatives by the plague. With the true instincts of the economical Chinaman, he purloins his deceased relative's clothing, irrespective of the fact that it is infected with plague bacilli, and, without a thought of disinfection, packs it away with its accompaniment of dirt and live stock among his own garments to be used if necessity arise during the voyage. All goes along merrily, Providence is kind, and the steamer passes safely through the ordeal of inspection at every Japanese port where she touches and at last commences her long run across the Pacific to Vancouver. Our Chinese friend has hitherto had no desire to test the usefulness of his relative's plague-stricken garments until a cold and wet south-easterly gale, catching the ship when about ten days out from Vancouver, compels him to adopt all the garments in his limited store, in order to keep both dry and warm. On go the infected ones with the rest. What follows may be imagined. There are many ways by which the bacillus pestis can gain entrance into our friend's system; he may have a slight catarrhal bronchitis—a suitable soil; a recent vaccination (compulsory by law) would form an excellent entrance; cuts or abrasions might be the cause; not forgetting the probability of fleas and pediculi swarming in the borrowed clothing, than which it would appear there are few more deadly transmitters.

On arrival at William's Head two days later, the incubation period not being yet over, our friend being then in good health is passed by the inspector as "all right" and after undergoing a thorough washing and scrubbing and having had his clothes and baggage disinfected, proceeds to his destination somewhere in Canada.

It is quite within the bounds of possibility that should the patient landed in some inland town or village, the disease, particularly if it should assume the pneumonia form with absence of external glandular enlargement, will not be properly diagnosed, there being nothing to put the practitioner attending on his guard. Isolation will in such an event most likely be omitted, and here we have the seed implanted for a future epidemic.

By disinfecting the baggage, clothing and persons of all Chinese steerage passengers and Chinese members of the crew twenty-four hours before the steamer leaves Hong Kong, and by subjecting them all to a searching medical examination and forbidding all intercourse on their part with the shore after the disinfection and examination are completed, together with a thorough disinfection of the steerages and their latrines, etc., with bichloride of mercury solution 1 in 800, and a repainting of

the same before being used by the passengers, we are almost certain of preventing the possible occurrence detailed above. Should no case of plague occur on board the steamer during the voyage her passengers will be landed in Canada to all intents and purposes as though they had put in 21 days quarantine after disinfection. The time spent over the voyage from Hong Kong to Vancouver is never, with the fast steamers, less than three weeks.

There is no epidemic of bubonic plague in any port except Hong Kong with the two exceptions of Amoy and Kobe. As regards the first place ships trading to Vancouver do not call there except occasionally during the tea season, and then shore leave is usually forbidden for crews and passengers alike. Osaka, a large manufacturing town several miles from Kobe, has had a few cases of plague but so well have the Japanese kept it in hand that it has never spread and ships passing through Kobe are not in much danger. Neither Shanghai, Nagasaki nor Yokohama have yet been visited by the plague, and as these and the before mentioned are the usual ports of call for trans pacific steamers, it shows that, after once leaving Hong Kong, little danger of contracting the disease is present in the way ports. As regards taking on fresh consignments of Chinese passengers at ports other than Canton it is a fact, probably well known to you all, that no Chinese, except the Cantonese, ever come to America, and *they* never take passage from any place except Hong Kong.

Just a word concerning the facilities for carrying out the disinfection in Hong Kong and other eastern ports. The American government is already ahead of us in this matter. Learning by the painful experience of a few cases in San Francisco Chinatown, the U. S. government now compels all steamers trading from Hong Kong or Japan to American ports to put their native crews and passengers through a course of disinfection before leaving the foreign port. To this end there has been established in every large port in China and Japan suitable disinfecting stations having in operation the latest steam and formaldehyde disinfectors, as well as bathing conveniences. These stations are under the supervision of Medical Officers of the U. S. Marine Hospital Board, who see that the work is carried out properly and who furnish the necessary certificates on its completion. The stations themselves are usually in the hands of limited companies or private individuals, who use them as a commercial enterprise and are as ready to disinfect the personnel of one ship as of another.

Under these circumstances it would not be difficult for the Canadian Government to compel all vessels from infected Chinese or Japanese ports, or in fact from *all* Chinese and Japanese ports, irrespective of

infection and time of year, to disinfect their native crews and passengers before embarkation. Suitable medical men resident in various ports, could be engaged to superintend the disinfection and furnish the certificates.

Should a case of infectious disease break out on board a vessel after all the precautions had been taken, then the quarantine station of William's Head would be called into requisition. On the other hand should no infectious case occur we would feel secure, in that we knew how unlikely it was that any case could creep in after the manner of the one in my argument. Canada is now the only one of His Majesty's great colonies which has not been visited by the plague. Let us hope she may never be; but it will require infinite care and much strategy to keep it out.

THE DANGERS OF CONTAGION IN TUBERCULOUS DISEASES OF THE THROAT

By DR. B. C. BELL, Brantford, Ont.

TUBERCULOSIS of the throat in advanced diagnosed cases presents the same dangers of contagion as the same disease in the lungs, because almost always at such a stage the lungs are also considerably involved. These dangers, now so well known, are not for me to discuss. I will therefore confine myself to the consideration of a few special points which arise in connection with throat involvement.

As to individual susceptibility, predisposing causes are identical with those which favor active growth of the tubercle bacillus in other situations, always in low states of vitality, but added to this is a factor which beyond question has a direct and powerful localizing effect, viz., the catarrhal conditions found in so many noses and throats in the inhabitants of this country.

Statistics for Ontario show the number of deaths from tuberculosis considerably greater among females than among males, while statistics on laryngeal tuberculosis in other countries, there being none available for Ontario, give the proportion of deaths of males and females as about 3 to 2. In my own cases, which however have been too few from which to state a relationship, the greater number has been in females.

The majority of cases occur between the ages of 21 and 30.

Regarding local conditions, the sputa of patients with tuberculous throat diseases rarely contain the specific bacillus before ulceration has

taken place. This fact argues for the contention of some authorities that tuberculous laryngitis probably has its origin in an exactly similar manner to a tuberculous focus in a bone or joint i. e. locating there after entering elsewhere, and is not a direct inoculation, and further the throat of a pulmonary tuberculous patient may be constantly harboring bacilli without the disease developing there.

A qualification of the above statement must be made concerning the fauces and tonsils since here auto-inoculation probably does occur, but the disease is so rare in these parts, and in the pharynx, constituting only from $\frac{1}{2}$ of 1 per cent. to 1 per cent. of all tuberculous patients, as to be inconsiderable seeing that tuberculous laryngitis occurs in from 25 per cent. to 30 per cent. of all tuberculous patients.

When ulceration has taken place, the secretion is a thick, tenacious, semi-opaque, ropy mucus, containing few pus corpuscles, and difficult to dislodge, which possibly causes more violent coughing than takes place when the lungs alone are involved, with the consequent danger of greater expulsion and dissemination of particles and bacilli through the air, although this tendency to violent coughing is largely counteracted by the great pain it causes.

The question whether tuberculous disease of the throat is ever primary or not has been the subject of much discussion, but it is now pretty generally conceded that it may be primary, although in the vast majority of cases it is secondary to pulmonary tuberculosis. The practical bearing of this point on the subject lies in the fact that such a case might easily escape diagnosis for a time, and none of the precautions against the spread of the disease that are usual in pulmonary tuberculosis instituted. This is really not much of a danger in purely primary cases, because they are very rare. But cases quite as dangerous to the public, for the same reason, are very common, for time and again have I seen patients applying for a relief from a sore throat, which on examination proved to be tuberculous, and advanced even to various stages of ulceration, further examination revealing slight pulmonary involvement, which was never suspected by the patient.

By way of summing up, I would emphasize two points, first, the localizing effect of catarrhal conditions of the upper air passages; second, that while in many cases of tuberculous diseases of the throat the danger of contagion is identical with that in pulmonary tuberculosis, yet only too often there is the earlier danger of dissemination of the bacillus before the trouble has been diagnosed.

DIAGNOSIS OF SMALL POX FROM ERYTHEMA MUTIFORME.*

By A. DALTON SMITH, M.D., C.M., Mitchell, Ont.

THE subject of this short paper may seem to many to be a matter of small importance, but in view of the present widespread prevalence of small-pox of a type so mild as to be readily mistaken for diseases of a much less serious character, anything which can add to our present knowledge in regard to the differential diagnosis of small-pox from other diseases becomes of interest and of value. Of course the public, and the provincial health authorities also, expect every physician, whether he has ever seen a case of small-pox or not, to be able to diagnose the disease at sight. And the difficulties to be met with are apparent, at least to the physicians who have never had any personal experience with this disease.

The chief difficulty during the present prevalence of small-pox seems to be to differentiate it from chicken-pox, which disease seems also to have been widely prevalent of late.

A case, however, occurring in my own practice indicates a difficulty from another direction and which, up to the time of my own case, I had seen no mention of in the literature on the subject.

On Sunday, April 21st, 1901, I was called to the outskirts of the town to see a boy aged 10 years, one of a large family. The history given was that two weeks before he had been slightly ill with what was thought to be a stomach disturbance, with a slight skin eruption which disappeared in three or four days, the boy after this being better and about the streets, though he did not return to school. For a couple of days before I saw him he had not been so well. The patient I saw was very ill—pulse 140, temperature $104\frac{1}{2}$ degrees, throat inflamed, severe pains in the back and limbs, and great prostration. The legs on inspection showed a condition which I regarded as erythema nodosum, but the condition was much more severe than I had ever seen in a case of erythema nodosum. The next day, Monday, the general symptoms were no better and in addition I noticed some small spots on the face. On Tuesday I did not see the patient till very late in the evening. The general symptoms were but little improved, but the lesions on the face at once attracted special attention and on examination I found similar lesions scattered over the backs of the hands and on the lower forearm, and also a similar eruption, only smaller and in an earlier stage of development, scattered over the abdomen but none on the back. The erup-

*Read before the Huron County Medical Association.

tion was papular, varying in size from a pin head to a large shot, exceedingly hard and "shotty" on passing the hand over them, the older lesions already showing evidences of becoming vesicular. At this visit I was also asked to see a younger brother, also very ill and feverish, with a profuse rash just beginning to appear, pretty generally over the body. The situation was perplexing. I ordered the rest of the children sent out of the house and said I would return in the morning. The following morning the lesions on the older boy were still developing; the older ones on the face were now well formed vesicles, some of them showing a very distinct small black speck in the centre, but with no distinct umbilication. The eruption on the body corresponded exactly with the classical description of small-pox and also exactly corresponded with the lesions present in the one case of small-pox I had hitherto had the opportunity of seeing. I decided to have counsel and at once drove down for my confrere, Dr. Hurlburt, knowing he had had some experience in small-pox. On examining the case he quite agreed with me that it was not possible to say that these lesions were not those of small-pox. The younger boy's eruption corresponded to that of a scarlet fever. I at once reported the cases to the Health Officer, Dr. Armstrong, and asked him to placard the house for scarlet fever. I also asked him to see the cases, which he did, sharing the opinion of Dr. Hurlburt and myself as to the suspicious character of the eruption. During Tuesday and Wednesday there was no change. Thursday morning the older vesicles were beginning to shrink and the appearance on the dorsal surface of the foot and lower part of the legs of an eruption which was purely vesicular in character, made me practically sure of what I had before regarded as possible, viz., that the case was one of erythema multiforme. The vesicles on the face and forearms from this time on slowly retrograded, drying up and exfoliating, leaving no pock marks.

The inflammatory nodes on the leg grew gradually larger, till coalescing, they became continuous over almost the whole of the anterior surface of the legs. Fluctuation indicating the presence of fluid, I made several large openings in each leg turning out the contents consisting of badly formed blood-clot. Already in some places having the appearance of a commencing degeneration into pus, but on this point I cannot speak positively, as I did not examine with the microscope, and the presence of pus in cases of erythema nodosum is, I believe, not usual.

Rapid improvement followed, the boy making a good recovery. The trouble in the case of the younger boy proved to be scarlet fever.

Though I had seen no reference in medical literature to a similar case previous to this time, strange to say about three weeks later I saw

in *American Medicine* a reference to a paper published in *The Scottish Med. & Surg. Journal* of April, 1901, by Dr. Norman Walker, describing a case in which the diagnosis between smallpox and erythema multiforme was very difficult. The same case was referred to in an editorial note in *American Medicine* as the only recorded case in which such a diagnosis had been difficult to make.

TWO CASES OF EXTRA-UTERINE GESTATION, OPERATION, RECOVERY.

By H. C. WRINCH, M.D., Port Errington, B.C., and Dr. BOLTON, Port Simpson, B.C.

CASE NO. 1.

THE patient, an Indian woman, aged about twenty-five, had had one child about three years before. She was working at a place about eight miles from a doctor when the rupture occurred, so was not under immediate observation.

History.

July 7th, 1900.—A small tumor was discovered in the pelvis to the right of the median line. Patient thought she was pregnant. July 16th.—Patient's husband came for medicine saying his wife had had a hæmorrhage which they believed to be due to a miscarriage. It had been attended with a good deal of shock. July 25th.—Symptoms of cystitis were complained of. Micturition painful. Temperature normal. July 27th.—Medicine was given to relieve bladder symptoms. Shortly after this the patient went away to the native village and was not seen by the doctor for about seven months. March 11th, 1901.—Patient again presented herself at the office saying she had now been ten months pregnant. She gave history of normal progress of later months of pregnancy, the foetal movements having continued until pains, simulating labor pains, had occurred about one month ago. Since that time she had felt no movement. Subjective symptoms being so unreliable in the case of Indian patients, it was thought she was probably mistaken as to the date of conception, and she was advised to await progress.

One month later, labor not having come on, a careful bi-manual examination was made and it was found that the tumor (which resembled an ordinary pregnant uterus at term) was entirely free from the uterus, and was easily movable upwards from pubes. A diagnosis of abnormal pregnancy was made, but circumstances prevented operation being performed until some weeks later.

Operation.

July 26th.—A four-inch incision was made in the median line, below the umbilicus. The tumor was found apparently free in the abdominal cavity. On exploration, however, adhesions were found to be holding it below and posteriorly, so it was decided to incise the sac and evacuate its contents before trying to remove the sac itself. A small incision was carefully made in the sac wall, but as it was found there was a quantity of offensive, grumous matter inside with the foetus, it was thought best to attempt to remove the tumor entire. The abdominal incision therefore was extended about one inch above the umbilicus. The principal attachment of the tumor was to the right corner of the uterus. It was attached by a pedicle about three inches long. The Fallopian tube and ovary were included in the pedicle, but were about one inch apart. Between them, in the pedicle, were some three or four large vessels which had evidently carried the main blood supply to the tumor and its contents. The ovary was somewhat longer than usual, but otherwise appeared about normal. It was situated about midway between the tumor and the uterus. The fimbriated extremity of the tube was lost in the wall of the sac. The pedicle was tied off by divided ligature and was cut off as close as possible to the uterus as in an ordinary salpingo-oophorectomy. The only other adhesions of any moment were to the omentum. From this source, a large number of small and medium-sized vessels communicated with the sac wall. These were ligatured and cut off after the tumor had been turned out of the peritoneal cavity.

A small cyst was found growing on the left fimbriated extremity. Otherwise it and the left ovary were apparently normal. There were no adhesions about them or the uterus. The cyst was ligatured and removed.

As the hemorrhage seemed completely arrested and there had been no escape of the contents of the sac into the peritoneal cavity, the abdominal incision was closed without drainage.

Post-operative Condition

The maximum temperature was 99.7°, and was registered on the second evening after the operation. Previous to the operation the temperature had always been normal when examined. The recovery was uneventful up to the time of writing, the eighteenth day after operation.

The tumor consisted of sac and contents. The sac was composed of two layers. The outer layer was living tissue, about one thirty-second of an inch in thickness, but not very tough. It represented, presumably, the thickened, hypertrophied peritoneum of the broad ligament, and was nourished directly from the maternal system. The inner layer was dead

tissue consisting of placenta and membrane. Only one layer could be demonstrated in the membrane. This could easily be detached from the outer layer of sac, but the placenta was firmly adherent to it. (the sac). The placenta was irregularly oblong in shape and variable in thickness, the umbilical cord arising from its edge.

The sac-contents comprised the foetus with its cord, and a small amount of semi-fluid, pultaceous matter. This semi-fluid material represented the vernix caseosa, the hair and epidermus of the foetus which had become macerated and largely detached, and the unabsorbed residue of the liquor amnii. This material was slightly offensive as above noted. The foetus had evidently lived to full term and was in a very fair state of preservation.

Remarks.

In connection with this case it might be noted that many authorities, when referring to secondary operation for abdominal gestation going to term, advise that the sac, if not already adherent to the anterior abdominal wall, be stitched thereto and the foetus removed. The placenta, if it can be readily detached, may also be removed at the time of operation, or it may be left to come away through a drainage opening left for that purpose if too firmly adherent. Pending the extrusion of the placenta and the final obliteration of the sac by granulation, the cavity is to be frequently irrigated with mild antiseptic solution.

The writers of leading articles on this subject in the British Medical Journal for July 12th, and the Kingston Medical Quarterly for July, both of the current year, are evidently in harmony with these views.

This mode of treatment is doubtless based upon the supposition that the adhesions of the placenta (or of the sac external to it) to adjacent viscera will be so extensive that their entire removal at once is out of the question. And probably in many cases this is the actual condition. But the experience of this case at least, suggests the wisdom of first ascertaining the extent of the adhesions of the sac before deciding that it must be allowed to remain within the abdominal cavity, the patient thereby being subjected to increased risks of infection—both immediately, from the opening of the sac, and secondarily, from the more tedious convalescence.

CASE NO. II.

Another Indian woman, aged about twenty-six. Married six years. Gave history of gonorrhoeal infections previous to marriage. Primipara. Last menstruation was in April of present year.

On July 20th she came to the office for treatment for uterine hæmorrhage. Said that she had had an abortion three weeks previous. At the time the attack had come on suddenly and had been characterized by

pain and tenderness. The pain was referred to right groin. There had been hæmorrhage ever since. She was badly constipated and was given cathartic and uterine astringents. Next day she had another attack of faintness and the pain in the right side became more severe.

Examination revealed a tense tumor lying to the right and in front of uterus. It could be felt as a bulging mass in the vagina and was palpable above the pubes, extending a little to the left of the median line. This, with the above history, made the diagnosis practically assured, and operation was advised. But both the woman and most of her friends were opposed to this, so local and general sedatives were given but with very little relief. Consent being finally obtained, the operation was performed on Aug. 6th—eleven days after that of Case No. 1.

Operation.

Incision in the median line, three inches at first but afterwards extended to about four. The omentum was found to be firmly adherent to the anterior part of tumor and had to be separated. The adhesions about the tumor in every direction were fairly strong and had to be separated before the pedicle, or even the uterus, could be reached. Blood seemed to have escaped into these adhesions, or else they themselves consisted of partially organized blood clot, for a quantity of clot came away during the process of separation, the tumor itself being left unbroken. Part of the Fallopian tube was removed with the tumor. The ovary on that side was afterwards removed by itself.

On the left side the tube was found distended with fluid, its fimbriae having become agglutinated so that it terminated in a blind end. It was removed. A cyst about as large as a hazel nut on the left ovary was also removed, but the ovary left in situ. The abdominal incision was closed without drainage.

The Specimen.

The tumor, which was rather larger than a goose egg, seemed to consist of organized clot. On cutting into it, some clear fluid escaped, and a cavity, about one inch in diameter, was found a little to one side of its centre. The cavity was lined with a smooth, shining membrane (arunion?), by a prolongation of which it held suspended within itself an oval, pink, fleshy body about three quarters of an inch in length. This was evidently the foetus but it had perished before any distinctive members had developed.

Post-operative Condition.

The subsequent history is of no special interest. Up to the time of writing—the seventh day after operation—the temperature had been up only to 100.3°. In all other respects she was making excellent progress towards recovery.

RELATIONS OF HYPERCHLORHYDRIA TO "BILIOUS ATTACKS," SOME FORMS OF ECZEMA, GOUT, AND MUSCULAR RHEUMATISM.—PRELIMINARY REPORT.*

BY GRAHAM CHAMBERS, B.A., M.B., TORONTO.

Professor of Dermatology, and Associate Professor of Clinical Medicine, Women's Medical College; Demonstrator of Clinical Medicine, University of Toronto; Physician to St. Michael's Hospital, etc.

HYPERACIDITY of the stomach is a common disturbance of secretion. The frequency of its occurrence is very difficult to determine, as there is no doubt that a moderate excessive secretion of hydrochloric acid may take place without producing subjective symptoms. I have on several occasions examined the gastric contents of patients with apparently normal digestion and found excess of hydrochloric acid, although in some of them there was a history of "bilious attacks," which were probably attacks of acute hyperacidity. It seems to me, therefore, that the gastric distress which is present in cases of hyperacidity is more or less due to the hyperesthesia of the mucous membrane of the stomach as well as to the excessive acid contents. This opinion is supported by the fact that in many cases of hyperchlorhydria pain comes on in a few minutes after the ingestion of food of any form. The commingling of these two neuroses—hyperchlorhydria and hyperesthesia gastrica—makes an investigation into the relations of the former to "bilious attacks," eczema, muscular rheumatism and gout a very difficult one, as I can not help but think that a general irritable condition of the gastric nerves must produce some changes in the sympathetic and cerebrospinal centers, which would no doubt lead or tend to lead to diseases in other organs. The investigation is also difficult because even if we find hyperchlorhydria associated with diseases of some other organ we have still to determine which was diseased primarily, or whether both pathologic conditions were not secondary to a disease in some other organ of the body, such as uremia, uraemia, nicotin poisoning, neurasthenia, etc.

My attention was first called to the subject about two years ago. I observed the internal treatment, both dietetic and medicinal, which I was accustomed to use in cases of hyperchlorhydria, was approximately the same as that which I was using in some forms of acute eczema and in both cases it gave very satisfactory results. I then determined to investigate the relations of these two diseases and latterly I have intended the research to the whole subject matter of my paper.

Before I give results of my observations, I wish to discuss and offer some suggestions as to how hyperchlorhydria may cause disease in other

* Read before Ontario Medical Society, June, 1901. Journal, A. M. A.

organs of the body. We know that the amount of blood in the portal system increases during the process of digestion. I think I am safe in stating that the more active the secretion of the stomach and intestines the greater the inflow of blood to the gastro-intestinal area. All the blood which enters the portal system must pass through the liver and hence the hyperemia of the stomach which occurs in hyperchlorhydria would tend to produce active congestion of the liver. The same pathologic condition might also be produced by the absorption of the toxic substances, the products of the disturbed digestion, produced by the hyperchlorhydria. Thus we know that an excessive acid secretion interferes with the digestion of starch and does not interfere with at least some form of fermentation. I have frequently observed considerable quantity of yeasts in gastric contents with normal hydrochloric acidity or even hyperacidity. I do not think that the secretion of hydrochloric acid bore any causal relation to the presence of yeast, as the growth of the latter no doubt resulted from the retention of food. If yeast can grow in the presence of HCl, then it is probable that the latter will not have any deterrent action affecting the growth of some other forms of germs in presence of a suitable pabulum, and in all cases substances with variable degrees of toxicity would be produced and gain admittance to the portal circulation. Fermentation and putrefaction in the intestines are of frequent occurrence in cases of hyperchlorhydria and probably result from the inflowing of the highly acid chyme containing large quantities of unchanged starch. The toxic substance thus produced would also be carried to the liver. We should also remember that these poisonous chemical bodies may not only cause active congestion of the liver but, changed or unchanged in constitution, pass on into the general circulation to produce disease in other organs. If active congestion of the liver results from the absorption of toxic substance from the stomach and intestines as well as from an excessive inflow of blood to the portal circulation, we have still to discuss the effects of pathologic hyperemia of the liver on the system in general. We know that the liver has varied and complex functions. It is at the same time a digestive, an excretory and assimilative organ, and it would be quite natural for these functions to be disturbed by an excessive inflow of blood laden with toxic substances or even with an excess of food products. Defective metabolism might lead to an excess of urates in the blood and I believe that this is the case in hyperchlorhydria.

HYPERCHLORHYDRIA AND "BILIOUS ATTACKS."

When a patient complains of such subjective symptoms as headache, nausea, pain and discomfort in the region of the stomach, acid eructations,

bitter taste in the mouth, disinclination to work, the diagnosis of bilious attacks is frequently made, particularly if the symptoms follow excessive eating or drinking. According to my experience, these attacks are very frequent in cases of chronic hyperchlorhydria, although they are not infrequent in patients who do not give a history of chronic indigestion. With the object of determining the activity of the secretion of HCl in this condition I produced emesis in a patient with the above symptoms one hour and a half after partaking of a breakfast of three pieces of toast and a cup of coffee and examined the vomit. The total acidity and free HCl were 72 and 32 respectively, showing the presence of hyperchlorhydria. The patient had suffered from severe similar attacks previously, but they were of short duration, and in the intervals he had fairly good digestion. I think, therefore, that this was a case of acute hyperchlorhydria due to irritation of food which he had eaten a day or two previously, or an exacerbation of a mild form of hyperchlorhydria.

RELATIONS OF HYPERCHLORHYDRIA AND SOME FORMS OF ECZEMA.

That hyperacidity of the stomach bears some casual relation to some types of eczema I have no doubt. I am equally confident that there are cases of eczema occurring in persons with normal digestions. According to my experience symptoms of indigestion are of frequent occurrence in eczema, and are usually of the character that indicates hyperchlorhydria. In addition, I have examined the gastric contents of six cases of eczema with symptoms of dyspepsia; in five of these there was an excess of HCl in the gastric contents, the remaining case having normal acidity. Moreover, the internal treatment of acute irritable eczema which usually gives me the best results is about the same as that which I find most successful in cases of hyperchlorhydria.

I am unable to say in what manner the eczema is produced by the hyperchlorhydria, but I have some data which point to an excess of uric acid in with blood as the direct causative agent, and I have suggested in a previous part of my paper that the hyperchlorhydria may be the cause of the uratemia. However, I shall content myself for the present by reporting short clinical histories of some cases in practice which appear to indicate a relationship between these diseases.

Case 1.—H. M., aged 42, market gardener, consulted me in the spring of 1900 on account of an eruption on his face, forearms, backs of hands, and fingers. His previous health had been fairly good, although he had suffered considerably from indigestion for two years before he came to me. He complained of heartburn, heaviness and slight pain after eating. His tongue was heavily coated and his bowels were constipated. The appetite was fairly good. The eruption on account of which he sought

advice began two weeks previously on the backs of the hands: it then extended to the fingers and forearms, and lastly to the face. The rash had all the characters of acute vesicular eczema. I gave the patient a test breakfast and an analysis of the gastric contents revealed the presence of hyperchlorhydria. The patient was treated as follows: a mixture of black wash and calamin lotion was applied to the eczematous patches and the diet and internal medicine were the same as those indicated in hyperchlorhydria. Under this treatment he made a rapid and complete recovery from both the eczema and indigestion.

Case 2.—A. B., physician, for twenty years has had eczema and for as long as he can remember has suffered at times from indigestion. The eczema began on the scalp and those parts of the face covered with beard. The first attack extended to nearly every part of the surface of body. The eczematous patches were red and scaling, and occasionally moist. When he was a boy if he ate pickles, lemons, or other acid substances he suffered from heartburn, but of late years the indigestion has been at times much more severe in character. When I examined the patient last autumn, I found that the scalp, neck, trunk, and popliteal spaces were the seats of the eczematous patches. A few of the diseased areas were moist, but most of them were dry and scaly. The patches on the trunk were of various sizes with well-defined borders and had all the objective signs of seborrheic eczema or seborrhea corporis, but the subjective symptoms were somewhat more severe than those which are generally present in cases of seborrheic eczema.

As the patient was suffering considerably from indigestion I gave him a test breakfast and analyzed the gastric contents. The total acidity and free HCl were 120 and 73 respectively; mucus slightly increased; digestion of starch very poor. The patient was therefore given an internal treatment suitable for hyperchlorhydria and an external treatment suitable for seborrheic eczema. We found that the lesions were very irritable. A mild resorcin and sulphur ointment, usually so effective in seborrheic eczema, was not tolerated: but an ointment containing 8 grains of ammoniated mercury and one drachm of zinc oxid to an ounce of cold cream appeared to be soothing to the affected parts. Under this treatment a rapid improvement in the condition of the patient took place and two months later the rash had completely disappeared. I am of the opinion, therefore, that this was a case of seborrheic eczema aggravated by the irritable condition of the stomach.

Case 3.—S. W., male, aged 27, came to see me on June 10, 1901. He told me that he had suffered from eczema of the face for over two years. On inquiring I also ascertained that he frequently suffered from heartburn, pain after eating, belching and other symptoms of indigestion. His

face and ears were nearly covered with red scaly patches and his left cheek was considerably swollen. He also suffered from seborrhea of the scalp and alopecia furfuracea. I considered this a case of seborrheic eczema aggravated by hyperchlorhydria and prescribed accordingly. The rapid disappearance of the edema and the marked improvement in the scaly patches appear to support my diagnosis.

Case 4.—A woman, aged 50, came to see me in December, 1900, complaining of an eruption on the backs of her hands. She was full-blooded and had had her menopause about three years previously. She said that she had had indigestion for years, but the symptoms, discomfort after eating, belching, acid eructations, did not worry her very much as her appetite was fair and her general health was good. An examination of the lesions convinced me that it was a case of acute weeping eczema, and analysis of the gastric contents revealed the presence of hyperchlorhydria. The stomach was not displaced. I estimated the quantity of uric acid passed in a day to be 12.5 grains. I tried Garrod's test for uric acid in the blood and obtained a positive result.

The treatment of this patient was very similar to Case 1. A mixture of black wash and calamin lotion was at first applied to hands. When the parts became dry I used Lassar's paste. Internally I gave an alkaline mixture and a light non-irritating diet.

Case 5.—A. T., female, aged 40, came to my skin clinic at St. Michael's Hospital, June 5. She complained of an eruption on her thighs and face. She stated that the rash began on her thighs two years previously and about the same time she also began to suffer from indigestion—pain after eating, acid eructations, etc. Her digestion had improved of late, but the eruption was still on her thighs and had recently extended to her face.

An examination of the patient revealed the presence of scaly, eczematous patches on the thighs and an edematous erythematous eczema on the face. The blood was tested for uric acid by means of the thread-test and a marked deposit of uric acid crystals was obtained. The patient was given a mixture of potassium bicarbonate, sodium salicylate, tincture of nux vomica and fluid extract of cascara sagrada aromatica before meals and a diet of bread, butter, milk and rice. In five days the eczema had completely disappeared from her face and in two weeks had nearly disappeared from her thighs. I then ordered a weak tar ointment, which in a few days effected a cure.

RELATIONS OF HYPERCHLORHYDRIA AND GOUT.

Disorders of the digestive system are of frequent occurrence in gout. All writers on the subject agree that excessive eating and drinking are

important etiologic factors. They also agree that gout frequently gives rise to indigestion. "Acidity" is a common symptom in gouty subjects, and it has hitherto been held that the acid in the gastric contents was usually due to organic acids and not to hydrochloric acid. I believe that a thorough investigation of the subject would prove that this opinion is incorrect. We know that a similar erroneous idea was until recently held with regard to all cases of gastric indigestion. Deficiency and not excess of gastric secretion was said to be usually present in cases of dyspepsia. Even so distinguished a writer as Lauder Brunton, in his article in Clifford Allbutt's "System of Medicine," holds the same view. I know that this opinion is incorrect with regard to the dyspeptics in Toronto. During the last three years I must have examined the gastric contents of at least 300 patients and hyperchlorhydria was much more frequently present than hypochlorhydria.

The investigation of the relations of hyperchlorhydria to gout is somewhat difficult in this country, as according to my experience podagra is uncommon, while irregular gout is very common, but difficult to diagnose, particularly when not preceded by a history of gout in the foot. I have only examined the gastric contents of one patient with a history of regular gout, and he had marked hyperchlorhydria; but the subjective symptoms, referred to the stomach, which have been described to me by gouty patients, and which are generally held to be characteristic of the disease, are very similar to those of hyperchlorhydria. Again the etiologies resemble each other in some particulars. We know that excessive eating and daily use of alcoholic liquors in those who lead sedentary lives dispose to gout and these are the same habits which are active agents in the production of hyperchlorhydria and hyperesthenic gastritis. It seems to me, therefore, that the relation between the two diseases is a subject worthy of investigation. If uratemia is shown to be present in cases of hyperchlorhydria then at least one important factor in the etiology of gout will have been determined.

RELATION OF HYPERCHLORHYDRIA AND MUSCULAR RHEUMATISM.

We know very little about the etiology of muscular rheumatism. Exposure to cold is no doubt a contributing factor. Clinical experience teaches us that muscular rheumatism and gout are in some way related. It is probable, therefore, that patients with muscular rheumatism may suffer from a mild degree of uratemia.

In regard to relations of hyperchlorhydria and muscular rheumatism, I have observed that they are frequently associated, but whether the muscular rheumatism is the result of the hyperchlorhydria, I am at the present unable to say.

THE USE OF MASSAGE, EARLY MOVEMENTS, AND POSTURE IN THE TREATMENT OF RECENT FRACTURES.*

BY DR. SIR WILLIAM H. BENNETT, F. R. C. S. (Eng.)

A PROLONGED experience of the use of the combined methods of massage, early movements, and rational posture in the treatment of ordinary fractures coming under notice almost daily in hospital work, leads the author to the following conclusions :

1. When managed with ordinary discretion and with average dexterity the result of the method is undoubtedly advantageous, inasmuch as the time elapsing before the patient is able to resume his ordinary vocation is diminished by at least one-third, partly by the increased rapidity of union which ensues and to a great extent by the avoidance of the waste of time which occurs in correcting the stiffness and pain which so often follow upon the discontinuance of splints, in the majority of cases treated by means of the classical method of prolonged splinting, etc.

2. The advantages resulting from early passive movements—an essential precursor of which is massage—are especially noteworthy, a fact which was fully elicited in an inquiry made by the present writer in connection with a communication read at the meeting of the British Medical Association at Ipswich in 1900, the evidence obtained proving conclusively that early passive movements is followed by a correspondingly early return in the ordinary vocation of the patient.

3. The benefit of the method is remarkably demonstrated in fractures in which the chances of union are practically *nil*—*e. g.*, intra-capsular fracture of the neck of the thigh-bone—the indications being to obtain the best use in the damaged limb by insuring free movement and by preventing the wasting of muscles concerned ; in such cases massage and passive movements are indicated at once.

4. The danger of thrombosis and embolism feared by some surgeons does not exist more than in fractures treated by prolonged splinting. Cases of embolism may have occurred in the course of treatment upon the lines under consideration, but the writer, whose experience of the method is probably larger than that of any other surgeon in this country, [England] has met with no such case, although he has seen three instances of embolism (one fatal) in fractures managed by prolonged splinting. Thrombosis and embolism will from time to time occur in fractures however treated, a fact of which any surgeon of large experience must be painfully aware.

* *The Practitioner and Post Graduate.*

5. The method is not suited to those who lack discretion or who are defective in dexterity—a remark which applies with equal force to the majority of surgical methods; to such the classical treatment by prolonged splinting, whatever its disadvantages may be, is better adapted.

6. The principal disabilities attaching to the union of fractures in faulty positions, unless the displacement be gross or of the rotary kind are avoidable by the use of massage and early movements, by which adhesions around the fracture are avoided.

7. The method is not to be regarded as a substitute for treatment by splints on the one hand or by operative measures on the other, but should be used as a rational adjunct to each.

PRACTICAL SUGGESTIONS AS TO DIET AND TREATMENT OF GASTRIC FERMENTATION.*

ELSNER, of Syracuse, N. Y., states in the *International Medical Magazine* for July, 1901, that the larger number of cases of fermentation with gastric catarrh are due to misuse or abuse of the stomach and associated organs of digestion. No treatment can be efficacious which does not emphasize the prime importance of living under proper hygienic conditions with the regulation of the diet, interdicting spirits of all kinds including malt liquors; also change of scene to a climate where the patient finds it possible to exercise freely in the open air, where he engages, if able, in out-of-door sports. Unless there are contraindications, baths are to be taken daily. The bath, though the patient be plethoric, without arteriosclerosis, may be used to stimulate the "skin heart," thus relieving the patient by eliminating worn out material and stimulating circulation. In many of these cases the gastric catarrh is materially aggravated by a cardiac insufficiency, due to a sluggish and poorly nourished myocardium. The temperature of the bath must be regulated by the idiosyncrasies and condition of the patient. Living under such changed and favorable conditions, with a determination on the part of the patient to assist (for these unfortunates know their weaknesses), will be sufficient, without the aid of many drugs to effect a cure, if the mucosa and submucous tissues are not yet materially changed. Dr. Elsner's preference, if drugs are used, is for the bitter tonics, with a full dose of Carlsbad salt early in the morning. The intestinal tract must be kept open, for daily movements are necessary.

*The Therapeutic Gazette.

Lavage is always used when there is free morning emesis of mucous or where diet and the above suggestions fail to relieve. The intragastric spray is rarely needed, though occasionally a weak nitrate of silver solution (1:5000) has seemed to improve the symptoms in cases with thickened mucosa. The menthol spray has been used for its sedative effect, where vomiting and pyrosis were annoying and rebellious.

Intragastric electricity has been disappointing. When it has proved of value the benefit has been considered due to psychic effect.

The author has used both galvanism and faradism—the latter often more than the former. Faradism with high tension, long, fine wire, and rapid interruptions.

So-called antiseptic drugs without strict attention to diet and hygiene have given only indifferent results. The author's preference remains for the bismuth salts with benzonaphthol. With these he always gives small doses of belladonna and strychnine, or nux vomica.

Favorite formulæ are :

R Bismuth subnitratis, 0.3 ;
 Bismuth salicylatis, 0.3 ;
 Pulv. ipecacuanhæ, 0.01 ;
 Benzonaphthol, 0.3.

S.: One such powder directly after each meal.

Or,

R Tinct. belladonnæ, 5.0 ;
 Tinct. capsici, 1.5 ;
 Tinct. gentian comp., 32.0 ;
 Aquæ puræ, q. s. ad 128.0.

The diet during early days of treatment : Interdict starches, sweets and cereals. Equal parts of milk with lime water in small quantities given at intervals of two hours, if stomach is irritable. Barley water salted : animal broths and broiled scraped beef may be added after slight improvement ; overbaked toast with liquids taken with spoon. Later a mixed diet, including beef once daily, also eggs, milk, vegetables, Phillip's cocoa, coffee, and fruit for breakfast. Every case is a separate study. The outlining of a suitable diet requires time, patience, and considerable experimentation. There are no set rules.

Believing that the majority of cases of fermentation with gastric catarrh are due ultimately to motor insufficiency, active exercise is advised : as horseback riding, golfing, cycling, and walking, according to the age and condition of the individual patient. Massage and " Zimmer Gymnastik " after the method of Schreiber lead to material improvement. The nervous symptoms, often in the ascendancy, can be relieved by giv-

ing the patient agreeable occupation. Make the heart light by keeping the brain active. For well selected cases, where fermentation is excessive, belching of gas annoying, constipation depressing with pressure symptoms, the following formula is suggested :

R Strychnia sulphat, 0 06 ;
Fl. extract belladonnæ, 0. 6 .
Aquæ lauricerasi., 50. 0 ;
Tinct. gelsemii, 12. 0 ;
Aquæ puræ, ad 12.8 0 ;
S.; Teaspoonful before each meal.

THE PRESENT STATE OF OUR KNOWLEDGE OF AUTOINTOXICATION.*

By DR. JOSEPH KOVACS, Senior Assistant at the Principal Clinic of Budapest.

IT is generally known that Bouchard was the first to call the attention of physicians to the fact that under certain circumstances the urine contains some toxic constituents, and from this fact he has drawn the conclusion that these toxic matters must be circulated in the blood, where they are also formed. French and Italian physicians investigated the question with the greatest accuracy, and endeavoured to explain these phenomena on chemical grounds. This elucidated the fact that not only during the normal process of digestion, but also in certain pathological conditions, various chemical substances are formed in the stomach and intestines (phenol, streptotoxin, volatile fatty acids, alkapton), which bodies, when injected into the bloodstream of the animal experimented upon, gave rise to very striking and characteristic constitutional symptoms.

These phenomena are similar to those of poisoning, and, on account of the poison being in the organism itself, the group of symptoms thus arising received the name of "autointoxication."

Later on it was elucidated that the toxic matters which have such a deleterious effect upon the tissues of the organism, can be also formed in other parts of the organism. Especially is this true regarding the intermediary and final products of metabolism (aceton, diacetic acid, lactic acid, oxybutyric acid, and amylobutyric acid). The last-mentioned source of autointoxication, being formed by the metabolism going on in the tissues themselves, the pathological symptoms arising therefrom were given the

* *Medical Press and Circular.*

name *histogenetic* or *interstitial* autointoxication. This much therefore is certain that among the different phases of metabolism chemical substances are produced, which have a deleterious effect upon the organism by virtue of their chemical toxicity.

Now the only question remaining undecided is what may be the cause of the fact that the toxic materials, permanently present in the organism, are in one case active and in another absolutely inactive. The explanation may be: first, that these chemical products being very changeable, are decomposed, and later on unite with other products of metabolism and in such a way they are harmless; secondly, that the organism has under its command certain bodies that defend, it which hold the enemy in check, and so these poisons are eliminated from the organism.

It is evident, however, from the preceding that whilst demonstrating the chemical ground of autointoxication no light had been thrown on the dimly lighted territory of pathology.

In the first Internal Clinic of Budapest, Korányi Sandor initiated extensive investigations for the determination of the osmotic relation of sick and healthy men (1893). From these investigations it became clear that the molecular concentration of the normal blood is strikingly constant (0.56), and so we were justified in supposing that the functions of single organs are best carried on by this physical state of the blood. On the contrary, it was evident that in diseases in the course of which autointoxication occurred in its most striking form, the osmotic pressure of the blood was increased to the highest point.

Particularly we found this great physiological alteration of blood in the various forms of nephritis, also in several cases in the course of the development of uræmia. Similar results have been afforded by investigations carried on on chlorotic patients. These led me to the conviction that the physical alteration of the blood of chlorotic patients was very closely related to that taking place in nephritics, and at the same time, under the influence of these diseases, symptoms very much resembling the *uraemic* signs of nephritis have set in. In a contribution, published at a corresponding period, I described the results of my investigation on this subject, calling attention to the fact that the characteristic symptoms of anæmia and chlorosis can be traced back to autointoxication.

On the other hand, nothing was more natural under such circumstances than to suppose that the autointoxication stands in a close relation to the changed physical alterations of the blood and of the juices of the organism, and acting on this supposition we have laid the foundation of the further study of autointoxication. For in order to decide

this question more accurately I made some further investigations, in which I took into consideration the osmotic relations as well. I injected the urine of chlorotics (having a low molecular concentration) and the urine of patients suffering from heart disease (possessing a high molecular concentration) into hares. Similarly I used in several cases hæmoglobi-nuric urine. With the urine of chlorotics I could not produce any abnormal symptoms on hares, but, on the contrary, with the urine of patients suffering from heart disease I observed the wellknown symptoms of autointoxication. Furthermore, it was striking that from hæmoglobi-nuric urine I succeeded more easily and rapidly in producing the symptoms of intoxication.

I am, therefore, justified in concluding from these experiments that the osmotic pressure undoubtedly has some connection with the urotoxicity, but I had to keep in view that other factors must also play some *role* in this matter. For instance, among the constituents of the hæmoglobinuric urine the potassium salts prevailed; therefore, I believe that these salts have a great influence upon the degree of urotoxicity. The results of my numerous investigations closely tallied with the experimental results Korányi Sandor attained on uræmic patients. In some of his cases too the osmotic pressure was proved to be very high, but there were also others that showed the reverse.

My investigations, with regard to urotoxicity, I had to then abandon owing to many calls on my time in other directions, but later on, in 1900, I again commenced to deal with this question. This time I could carry out my experiments far more easily. The starting-point of these last investigations was that there exists some connection between osmotic pressure and the urotoxicity of the urine. For my experience I used hares and mice; I injected the urine of pneumonic (in an unchanged condition) and the urine of pneumonics and others previously rendered isotonic, together with isotonic salt solution, and finally isotonic salt solution, together with unchanged pneumonic urine. By these experiments I hoped to be able to prove undoubtedly the efficacy or inefficacy of the osmotic pressure. The result attained on mice I cannot put forward as trustworthy, because most of the animals suffered severely from the injections, although this much is certain, that under the injections of salt solution none of the animals died, whilst fifteen to thirty minutes after the injection of unchanged urine of pneumonics all the animals died. It is important also to note that the urine of pneumonics after the crisis proved to be much more toxic than during the course of the illness.

The fluid injected into the animals was equal to a third part of their weight.

And now, after reviewing my experimental data, whilst searching for the active agents of urotoxicity, and supposing these urotoxic agents (evacuated in and extracted from the urine) to be circulating in tissue fluids, my conclusion is justified, that the osmotic pressure, as well as the chemical constitution of these agents have some influence upon the production of autointoxication. It must be remembered, however, that there are also other active agents, such as potassium salts, and no doubt others as yet unknown. Besides the supposition is that these agents can support each other in their effects; *my experimental data at least seem to prove this cooperation. It seems sure that each of the above-mentioned components aids in the production of autointoxication.* What cannot be demonstrated is what share they respectively take in the phenomenon.

The efficacy of the osmotic pressure is proved by the experimental fact that the red blood corpuscles seem to be extraordinarily sensitive to osmotic pressure.

I think the following case is a very instructive one, rendering good service in the explanation of this nebulous question.

Two months ago a patient was admitted into our hospital with the following symptoms:—On the first two days headache, uncontrollable vomiting, great prostration, the pupils were contracted and reacted very sluggishly; respiration normal; pulse beat 90; temperature tending to subnormal. Partly on account of these symptoms, partly by means of exclusion, we thought we had to deal with uræmia. The examination of the urine did not verify this supposition ($\frac{1}{2}$ per cent. albumen, kidney epithelium being present, but without cylinders). Examination of the blood demonstrated, that the freezing point had sunk to 0.72. Patient was soporous, and later on comatose. On a second examination of blood and urine the results were similar; therefore, we thought it necessary to administer an enema of physiological salt solution; this was followed by striking improvement, which lasted forty days; then periostitis has set in, and also pneumonia with endocarditis and fever (39 and 40° C.). During the feverish condition albuminuria was present just as at the time of the admission of the patient. Fourteen or fifteen days after the onset of the fever the patient died. The autopsy showed no nephritis, but parenchymatous degeneration of the kidney; evidently it was a case of *uræmic intoxication with an expressed clinical image, with uræmic blood without nephritis.* It is impossible not to observe here the connection between the high osmotic pressure and the expressed pathological image of autointoxication; and although this case cannot be used for the decision of the question as to whether the matters, kept back on account of the renal insufficiency, poisoned the organism by reason of their

osmototoxicity or by their chemical effect; yet the supposition can almost be excluded that chemical or biological toxins that had accumulated to an extent corresponding to this high molecular concentration, would be able to cause the intoxication of the organism. It can be more easily understood, that here not a single, but different protoplasmic poisons were acting, among which the excessive osmotic pressure must certainly have a certain role, and this can with facility be brought in accordance with the above-mentioned experimental facts.

Posner and Vertun sought the source of urotoxicity and autointoxication almost purely in the osmotic pressure, this being gathered from their communication published in 1890 in the *Berliner Klinische Wochenschrift*. The Paris School, and especially the pupils of Bouchard, described the result of their investigations in the same year, and they likewise apply the name of "l'osmototoxicité" to the toxic effect of the osmotic pressure.

The autointoxication, therefore, which during the last decade constituted the most diligently cultivated part of pathology started at first from our Clinic, and being carried on also at other clinics it gained a new foundation by showing the existence and action of autointoxication, without, however, the older hypotheses being cast off. There are in progress, however, still more recent investigations from which, as seems indicated, we can expect further light to be thrown on this very occult question: I mean the searching after toxic matter, which are the products of internal secretion.

TREATMENT OF ACUTE INSANITY IN GENERAL HOSPITALS.*

BY DANIEL R. BROWER, M.D., LL.D., OF CHICAGO, ILL.

AS we look back over the history of medicine, we marvel at the wonderful advancement in psychiatry. In nothing else has the century just closed shown such mighty strides, and it is with commendable pride that we, as Americans, can claim that here the insane were first elevated from the position of victims of diabolic possession to the dignity of sufferers from disease; that here their hospitalization first began. In the year 1752 Pennsylvania provided accommodations for the insane in a hospital where other patients were admitted, but to Virginia belongs the credit of having organized the first hospital for the insane, and I had the special privilege of taking a somewhat active part in the celebration of its centennial, November 10, 1873.

* American Medicine.

It was twenty years after this Virginia hospital was established that Philip Pinel became physician to the insane of Bicetre, and, striking off their chains, placed them under hospital care, and twenty-three years afterwards William Tuke opened the York Retreat.

The progress in these early days was very slow. The Eastern Lunatic Asylum of Virginia did not become a hospital until Dr. J. M. Galt became its superintendent in the year 1841. In France so late as 1834 the insane were incarcerated in cages.

The great work cannot stop; advancement must continue. The foundations were laid by Pinel, Tuke, Esquirol, Chiarruggi and Galt, and upon these foundations a mighty structure, as is the hospital for the insane of to-day, has been built. But it needs much to make it a perfect edifice, and we, their successors, must see that the construction is continued on scientific lines, and in harmony with the spirit of the age. As commendable as are the methods of yesterday and to-day, they must be improved, for progress is the order everywhere in medicine and surgery.

The defects in our palatial public institutions of to-day are:

(1) That they are most of them too large, considering that they contain both acute and chronic cases. It is physically impossible for the medical superintendent to individualize the work; he must intrust a great part of the medical care and treatment to his subordinates.

(2) They are too far from the homes of many of the patients.

(3) The admission to these hospitals is by cumbersome, antiquated and unscientific methods, often subjecting the patient to a severe ordeal that sometimes does serious damage, physically and mentally, and diminishes proportionately their chances of recovery.

(4) In some of the commonwealths of this great nation, noticeably in the State of Illinois, these noble institutions have been degraded to the position of political machines, their organization used to carry elections, to defray campaign expenses, and to reward those who have rendered some special party service.

In the language of Dr. George F. Keen, "The politician threatens to strangle scientific investigation, dethrone official integrity and dwarf the efforts of a generous and sympathetic public when it honestly strives to alleviate the distress of its fellowmen."

In the presence of these objections, delay is frequently experienced in inducing the family to place the unfortunate member promptly under hospital treatment, and thereby the prognosis is made unfavorable.

Many of the acute cases can be well cared for in the general hospital. For twenty years past I have had under care and treatment, in a general hospital, cases of acute insanity, and a reasonable number recover.

Since the organization of the Neurological Clinic at the Cook County Hospital, five years ago, scarcely a clinic has been held without one or more cases of insanity being shown, drawn from the general wards of the hospital. The work that is being done in these wards can be done in the wards of any one of the hospitals that are now to be found in every enterprising city all over the country. To do it will require some financial support from the counties, but the county authorities can well afford to be liberal in the effort of dealing with insanity in its earliest stages, when the chances of cure are so much greater. The New York Lunacy Commission estimates that the ultimate average charge for every patient admitted to a state hospital who is not discharged recovered or improved, amounts to about \$6,000.

The admission for the insane to these wards of the general hospital should be free as for other patients. There is no scientific reason why a case of brain disease causing insanity should be compelled to pass through the court, and a disease of the same organ producing hemiplegia should not. Of course, I know that there are in some cases important property interests involved. So there may be in a hemiplegia with aphasia, and, as a rule, these interests can wait, for, in my judgment, no patient should be retained in the general hospital beyond six months, unless well on the road to recovery, and if at the expiration of that time the patient is not improved, he can be sent to the special hospital by the ordinary court proceeding.

I think care should be exercised in the selection of cases for general hospital treatment; indeed, I would limit it to the primary curable conditions. Mania, melancholia, and stuporous insanity; the *secondary insanity*, the *psychic degeneracies*, and the *arrests of development* should be excluded.

I am very grateful to have received yesterday from Dr. Herdman, the distinguished Professor of Nervous diseases of the University of Michigan, a copy of an act that became a law in Michigan, May 25, 1901: "To provide for the construction and equipping of a psychopathic ward upon the hospital grounds of the University of Michigan, and to appropriate the sum of \$50,000 therefor." Here is a step in the right direction, and we hope that this influential and scientific association may endorse, and by their mighty power initiate all over the land such an agency for the cure of insanity.

CURRENT MEDICAL LITERATURE.

Conducted by A. J. McKenzie B. A., M. B.

TREATMENT OF NEURASTHENIA.

IN the section of Psychological Medicine of the 69th Annual Meeting of the British Medical Association, A. T. Schofield M.D., Physician to the Freidenheim Hospital, London discussed "Some conditions of success in the treatment of Neurasthenia" (British Medical Journal, October 26th, p. 1236.) While recognizing the distinction ordinarily and correctly made between true neurasthenia, nerve irritation or exhaustion, dependent upon external causes or physical lesions within, and neuromimesis with its distinct mental element, the writer discusses the treatment of functional nerve cases generally under the headings, personality, diagnosis, treatment and details.

Dr. Schofield believes firmly in the existence of the sub-conscious mind, and ascribes neuromimetic diseases to perversions of this sub-conscious mind, bridging over as it does the gap between the conscious mind, whose derangements cause the mental obliquities or insanity and which is a necessary element in malingering, and on the other hand, the nervous system with the nervous diseases having a true physical basis.

The personality of the physician should always be marked by sympathy, patience, perseverance, firmness and tact. Sympathy need not be manifest for "the quick unconscious relation of one mind to another when in harmony" given rise to a real sympathy which is always felt when it exists in the physician for the sufferer, giving a confidence in his skill and a restful feeling of being understood that is almost an assurance of a cure. It is necessary to this mental condition in the physician that he dismiss absolutely the idea of malingering, and remember that a disease of the imagination is not an imaginary disease, for even pain in its last analysis is mental rather than a physical fact. Patience depends on sympathy and presupposes an appreciation of the suffering caused by these functional nerve diseases, while perseverance means patience in the face of the difficulties resulting from the despondence of the patient and the scepticism of relatives: but it is repaid by the confidence inspired in the mind of the patient. Intelligent firmness in essentials, flexibility and leniency in unimportant matters means the possession of tact, itself a most important element in any course of treatment. "Tact is the unconscious mental touch, as necessary in these conditions as the educated touch to

the surgeon in others." "Symptoms must be regarded in the light of their importance to the patient, honesty in considering only the patient's interests must be the guide of every action, and care must be taken that apparently insignificant details do not invalidate the general result.

As for diagnosis we first decide whether mind or body plays the chief part in the disease; then following Charcot's distinction we differentiate diseases of the conscious from those of the unconscious mind, and before deciding definitely on treatment we must carefully eliminate such as are not in possession of a sound conscious mind, for where mental balance is disturbed no rapid or permanent cure can be predicted and many forms of treatment are contra-indicated. Having gone so far the division into neurasthenic and neuromimetic conditions remains and is often rendered difficult by the fact that they may be co-existent or associated with real physical lesions. In pure neurasthenia we must differentiate nerve exhaustion and nerve irritation.

The best method of cure will be that attended with the least trouble and expense for the patient, whether rest, change, drugs or other therapeutic agents are used; cast-iron rules should be avoided and the method adapted to the particular case. Tentative or experimental systems of treatment may be adopted but the aspect to the patient must be definite. Generally speaking, such cases cannot be treated successfully at home, so homes and nurses must be provided. The requirements of the former will be tact, patience and a suitability to the whimsical requirements of the patient, while the retreat chosen should be quiet, healthful, and with a dietary unlimited in range. Suggestion has its place but it is best used indirectly, that is through the medium of the remedial agents made use of by encouraging the patient and instilling worthy motives and so making the sub-conscious mind itself undo the mischief it has wrought.

A NEW OPERATION FOR HYDROCELE.

DR. LONGUET in "Le Progrès Medical" under the heading "Surgical Technique" describes an operative treatment for hydrocele, varicocele, and allied affections consisting in the so-called extra-serous transposition of the testicle and having as its salient features: 1st. The transposition of the testicle outside its serous sheath and its normal location. 2nd. In the utilization of this serous sheath to enclose the cord so that the tunica vaginalis becomes perifunicular rather than peritesticular. 3rd. The absence of the tendency to hæmorrhage as there is no sub-serous decortication. Five different forms of procedure have been used by this surgeon which are described as internal, external, high, low, and

trans-septal; of these the first is the most suitable for the treatment of hydrocele. A general anæsthetic is not required if the operator is facile and expeditious.

The procedure in the internal transposition is described in three stages. 1st. The opening of the tunica vaginalis for evacuation of the contents of the hydrocele—an incision about 4 to 5 centimetres long over the testicle. 2nd. The temporary luxation of the testicle and the ensheathing of the cord by a serous ring of which the secreting surface is turned towards the exterior and fixed by a suture overcast. 3rd. The transposition of the testicle replacing it in a cellular space enlarged artificially to receive it and finally the suture of the cutaneous wound.

The indications for this operation according to the author, are hydrocele, hematocele, testicular ectopia and varicocele; he quotes in support of it seventy-five successful operations for the first class of case. Three cases of ectopia of the testicle were unsuccessful on account of shortness of the cord, this he regards as a contra-indication; three operations for varicocele gave relief and a cure whose permanence will be decided by time.

POLITICAL ASSASSINS.

IN the Philadelphia Medical Journal, October 26th, Mills under the title "Political Assassinations in some of their relations to Psychiatry and Legal Medicine" makes an investigation of fifteen historical cases of political assassinations beginning with that of Henry III, of France, in 1589, up to the present, with particular reference to the recent crime in the United States. He divides the perpetrators of these deeds into four classes: (1) sane conspirators; (2) assassins clearly recognizable as insane; (3) degenerates who are not insane; and (4) degenerates of doubtful insanity, including among the first, Booth, who shot Lincoln, among the second, Guiteau, and in the third and fourth classes Charlotte Corday, Santo, the assassin of Carnot, and Bressi, who shot King Humbert.

The writer makes a clear distinction between degeneracy and insanity. The degenerate is one who has been reduced to a type lower than the standard normal individual and he generally bears certain bodily landmarks called stigmata, while on the mental side he evidences a general want of harmony between volition and instincts, and the varying stages of mental weakness down to idiocy. Insanity on the other hand should be diagnosed by a study of the physical state and the mental symptoms presented. Youthful degenerates later in life not infrequently become insane, with systematized delusions, still later passing into dementia, and in this connection it is interesting to note the immature years of the assassins here mentioned, ranging as they do from twenty to thirty.

five years with but one over forty; and in the older insanity was clearly marked.

Assassins clearly recognized as insane are frequently to be classed under the type 'paranoia political,' having as their distinctive feature a delusion of a mission, political social or religious, with a monomania of self-importance. The writer does not classify Czolgosz, but the inference is that he belongs to the class of degenerates and that though direct evidence of conspiracy has not been adduced he was doubtless the dupe, conscious or otherwise, of the leaders of the Anarchistic party.

AUTO-INTOXICATION IN EPILEPSY.

HEBOLD AND BRATZ have carried out a series of experiments in order to clear up the doubt which still exists with regard to the part played by auto-intoxication in the pathogenesis of epilepsy, and publish their results, together with some critical remarks in the *Deut. med. Woch.*, No. 36, 1901. They injected the urine and blood of epileptics into dogs and white mice. The dogs received from 2 to 10 c.cm. of urine obtained (1) immediately after the epileptic fit, and (2) one hour after the fit. The patients from whom the urine was obtained were selected because they were suffering from forms of epilepsy which strongly suggested a gastro-intestinal or other forms of auto-intoxication. In no case were convulsions produced in the dog. The blood was obtained by wet cupping and by venesection, and was defibrinated at once, so that within 5 or 10 minutes 10 c.cm. could be injected subcutaneously. In one case the motor centres had been destroyed, so that a scar taking its place the dog was in a favorable condition for the onset of an epileptic attack. All these experiments, too, were negative. Two animals, a dog and a bitch, were fed on milk and alcohol in increasing doses, and kept in one kennel. The bitch gave birth after eleven weeks to a litter of puppies, who all appeared healthy, and these puppies were treated by subcutaneous injections of urine and blood, but without effect. They aimed at producing an alcoholic hereditary taint. They had as little success with white mice, although they found that mice were more suitable experiment animals, since, by way of a control experiment, they produced convulsions which preceded coma and death by injections of carbaminat of ammonia. One case only produced anything approaching a positive result. An elderly spinster, who suffered from occasional epileptic attacks, was suffering from migraine, furred tongue, constipation, and vomiting, after a pause of $1\frac{1}{2}$ year in her fits. They applied a wet cup, and the blood obtained thus, when injected into a mouse in doses of 1.6 c.cm. produced twitchings after $\frac{1}{4}$ hour. These twitchings reappeared after 1 hour

and the mouse died 30 hours after the injection. A second mouse died after 18 hours, but without twitchings or convulsions. They conclude that their experiments fail to show any connection between the toxicity of the juices of the body and the occurrence of epilepsy, and although they do not put aside the possibility that certain forms of epilepsy may be due to auto-intoxication, they cannot support this theory until future experiments give them different results. They detail all the important self-poisoning theories, from Alt's simple explanation of epilepsy as a gastro-intestinal disturbance producing a poison which irritates the brain cells, to Binswanger and Jolly's theory of a secondary "toxæmic epilepsy."—*British Medical Journal*.

NOURISHMENT BY TRANSFUSED BLOOD.

BIER (Munch. Med. Woch. No. 15, 1901), has made a series of experiments to determine the value of transfusion of blood as a therapeutic agent. He used defibrinated sheep's blood, injecting it into a superficial vein in amounts up to 20 c.c. By agglutination and solution of the foreign corpuscles transitory hyperæmias and serous exudations appeared, resulting in some cases in dyspnoea, cough, fever and albuminuria, to be followed by signs of increased metabolism as hunger, thirst, etc. He used this method of treatment in seven cases of tuberculosis and these exhibited a markedly favorable result in increased weight, improvement in appetite and in strength and general condition.

ROYAL ARMY MEDICAL CORPS.

THE October number of the Practitioner, London, Eng., has a pungent editorial criticism of Mr. Broderick's scheme for the re organization of the Royal Army Medical Corps, the text of which may be found in the British Medical Journal, October 5th, p. 1025. It is pointed out that while the central idea in the scheme is the creation of an Advisory Board to advise the Secretary of State and supervise the R. A. M. C., theoretically an excellent addition, their value is nullified by the fact that the Secretary of State need not take their advice. "The Board in fact will be in exactly the same position as the Chorus in the old Greek tragedies which consisted of a group of respectable elderly gentlemen, who benevolently gave counsel and "presented Reports" to Kings and Queens, and if this advice was distasteful the Chorus were told to keep it to themselves. The Monarch might be represented as saying:—"What right have you with such advice to bore us?" The Board replies, "Sir, I'm the Chorus." Only to be crushed by the reply, "Sir, you're very indecorous."

Budapest, January 27th, 1898.

Certificate of Professor von Fodor.

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Royal Hungarian Ministerial Councillor; Director of the Hygienic Institute of the Budapest University; Knight of the Austrian Order of the Iron Crown; LL.D. Cambridge; Honorary Member Sanitary Institute of Great Britain, Royal Institute of Public Health, etc.

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THE CANADA LANCET

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EDITORIAL.

AN IMPORTANT DECISION.

A REMARKABLE decision, involving the rights of medical practitioners to collect fees for professional services rendered hospital patients, was rendered by Judge Morson in Toronto recently. The case was one wherein a leading surgeon of the city sued to recover \$30 in payment for an operation for appendicitis performed in St. Michael's Hospital. The patient, who was described in court "as a robust, rosy-looking fellow, of fine physique," was engaged with his brother as a farm laborer. He was restored to perfect health as the result of the operation but felt under no obligation to pay for the treatment. In giving his decision in favor of the patient the Judge delivered himself as follows in reference to hospital attendance:—"The public has a right to assume that the treatment is free. These institutions are supported by public charity, donations, grants, etc., and therefore the presumption is, at least so far as the public wards are concerned, that all treatment is to be free. The *right* to pay depending upon *ability* to pay is not recognized in law. If patients have to pay then it is not a public institution. Doctors on the staff cannot recover unless they first notify the patient of the rules and regulations of the hospital."

According to this ruling of the Court, the way is opened for hospital abuse to even a greater extent than has previously obtained. A wealthy patient, if he is sufficiently mean, may enter a public ward and obtain free medical service.

The remedy, however, lies in the hands of the profession and it remains to be seen if they will continue to be imposed upon. Public hospitals could not exist without the disinterested support which they receive from the medical staff and the latter would certainly be justified in standing together and refusing their services to any institution that will countenance such abuses. If they fail to do so they are false to themselves, the interests of the profession and to the community at large. The medical

profession assumes a large, and many believe, an unnecessary responsibility, in giving gratuitous services to the poor, but when those who are able to pay can *legally* obtain free treatment in the same way, it is certainly time that some concerted action was taken. When the State is so willing to spend public funds in establishing laboratories where free examinations are made, isolation hospitals for the free treatment of contagious diseases, to vaccinate free of charge, to provide accommodation in our general hospitals for the free treatment of all persons entirely without reference to the ability of those seeking these services to pay for them, to the detriment of the interests of the medical profession, it is surely time that medical men should stand up for their rights and insist that provision be made from the public funds to pay for medical attendance not only on paupers, but on those able to pay, whom the present system is attempting to pauperize. When the public begin to claim *as a right* the charitable medical services that have been so freely rendered, it is in order for doctors to consider why they should bear without recompense or thanks the burden of treating paupers, and others willing to be classed as paupers, in order to escape their financial obligations.

THE CANADA LANCET.

WE have pleasure in announcing to our readers that THE CANADA LANCET is now under the control of The Ontario Publishing Company—the publishers of Canada's only literary journal, *The Canadian Magazine*. The management have instituted a progressive policy, having in view the issuing of a journal that will creditably represent Canadian medicine in all its interests. The columns of THE LANCET will be open at all times to the publication of anything that has for its object the advancement of Canadian medicine and the good of the Canadian profession without reference to school affiliations, proprietary dictation or other local or personal interests. The journal will be devoted to the service of the medical profession in general, whose confidence it hopes to merit and whose hearty support it hopes to obtain. The management is absolutely free, and proposes to remain free, from the influence, dictation or control of manufacturing, advertising, and other commercial interests. It is confidently felt that the time in our national evolution has come when an independent medical journal, placed on the broadest basis possible, will be cordially received and supported by the profession.



J. F. W. ROSS
President Toronto Clinical Society.



N. A. POWELL,
President Ontario Medical Association.



F. N. G. STARR,
President Toronto Medical Society.



R. D. RUDOLF,
President Toronto Pathological Society.

SOME NEWLY-ELECTED PRESIDENTS.

An editorial staff of live, active workers is being chosen from among leading men in the profession in various parts of the Dominion; their names will be announced at a later date.

The journal will be enlarged and otherwise improved and it is intended at the earliest possible date to make it original throughout. We ask our friends in the profession to watch us and give us their influence and support only in-so-far as we follow out faithfully and honestly the policy which we have outlined. We will be pleased to receive suggestions from our readers, the adoption of which would make the journal more acceptable to them or in any way increase its usefulness.

PREVENTION OF TUBERCULOSIS.

THE last meeting of the executive committee of the Provincial Board of Health dealt especially with the prevention of tuberculosis. Naturally Dr. Koch's recent paper at the London Congress was a theme for special consideration. Notwithstanding his views in reference to the non-communicability of bovine tuberculosis to the human subject, the Board very wisely, we think, urged the continuance of all the precautions previously recommended in the prophylaxis of this disease. The Board repeats the following recommendation given in last year's report:—

(1) The need of supplying isolated wards for consumptives in public institutions; (2) that in private families there should be as much isolation as possible, and special care taken to destroy expectorations; (3) that vacated rooms should be thoroughly disinfected; (4) that local boards should make rules for the notification of cases of consumption, while at the same time it points out it is not in order that houses should be placarded, but that Boards may assist householders, especially the poor, by supplying printed rules and directions for limiting the dangers from infection; (5) the need for municipalities establishing sanatoria for giving aid to persons, especially the poor, affected with tuberculosis.

NO BORDER-LINE IN MEDICINE.

THE following editorial comment in *The Philadelphia Medical Journal*, we are pleased to believe, expresses the good feeling of the medical profession in the United States towards the Canadian profession and

people, and we are pleased to publish it as an effectual antidote to an editorial in the *Detroit Medical Journal* which we commented upon in our October number.

"International prejudice is never more inappropriately shown or more ungraciously expressed than when it resents the good offices of foreign friends in a time of need. The fact that one of President McKinley's nurses happened to be a citizen of Canada probably did not suggest in the remotest degree to the vast majority of American people a thought of criticism. The prejudice is too microscopically small to be worth even now a moment's notice were it not that it unfortunately found expression in an American medical journal—the last place in which it should have been seen. We print elsewhere the dignified reply of the *CANADA LANCET*, and we assure our Canadian contemporary that we are in full accord with the sentiments which it has itself expressed. The American medical profession, moreover, does not regard the Canadian medical profession as "alien." The science of medicine is too cosmopolitan, and the relations between the United States and Canada are too many and close, to tolerate the exhibition of such a petty sectional spirit—a spirit, however, which only harms him by whom it is expressed."

MADE IN GERMANY

ANOTHER startling discovery is announced from the Fatherland. This time, Professor Frederick Loeffler proposes the injection of either mosquito poison or the blood of patients suffering from malaria as a cure for cancer. The observation that cancer is very infrequent in malarious regions in the tropics lead the professor to conclude that malarial poison must be antagonistic to the development of these tumors, hence his idea is heralded as an epoch-making discovery in the lay press. Probably the ten days' wonder he has created will afford self-justification for the publication of such vaporings. Moreover, he has offered an opportunity for some one of his fellow-countrymen to come forward with an elaborate dissertation to show that Professor Loeffler was hasty and ill-considered in his conclusions and possibly, even to prove in passing, that malarial blood and mosquito poison really predispose to cancer. In the discussion that must necessarily follow who knows how many German savants may emerge from an obscurity that might otherwise have continued to envelop them and gain for a short period the public attention. If this end does not justify the means we fail to see why the

learned Professor did not remain silent until he was in possession of some experimental data to warrant him in placing his cure before the public. The publication of such hasty and unproven methods of treatment of pathological conditions in which the people at large take so much interest, followed as it almost invariably is by humiliating failure, discredits not only those immediately concerned, but, what is more unfortunate, brings undeserved odium on the profession in general. The Germans have been the greatest offenders in this respect for some time past and the notoriety which they are gaining will do much to undermine the credit and confidence which they deserve for many contributions of inestimable value to modern scientific medicine.

A LESSON TO CHRISTIAN SCIENTISTS.

SOME months ago, the death of a child while under the treatment of a Christian Scientist for diphtheria, was made a subject for investigation by a Coroner's Court in Toronto. The jury brought in a verdict condemning Christian Science and declaring the child's father culpably negligent in not having provided medical attendance. This led to a charge of manslaughter being laid against the father. The case came up for trial before Chief Justice Falconbridge, at the recent Court of Assizes in Toronto, and resulted in a verdict of guilty. His Lordship in charging the jury, held that an adult might use his judgment in having medical attendance, but that in the case of a child it was different. Here the law draws the line and steps in for the child's protection. As there was no question as to the good intentions and sincerity of the accused in this case, he was dismissed without further punishment. The verdict, however, cannot fail to have a salutary effect and will meet with general approval. While the mass of believers in Christian Science probably hold the doctrines in good faith, they are too often the mere dupes of schemers who exploit them for the basest mercenary objects. These professional, pray-for-hire healers are the real criminals who deserve punishment and for whom efficient legislation should be procured. So long as their peculiar creed affects none but themselves, there is no cause for complaint, but when their practices sacrifice the lives of helpless children or endanger the public health, as they do in cases of contagious diseases, they deserve no toleration. That the community are in no mood to countenance their whims, is well shown by the case in question, as well as in several others which have recently been inquired into. The authorities are to be commended for the vigorous manner in which they are dealing with them.

EDITORIAL NOTES.

The Medical Faculty of Bishop's College opened its session on Oct. 1st with an introductory lecture by Dr. F. W. Campbell, the Dean. The attendance was such as might be expected in a college which thirty-one years ago began with eleven teachers and now has forty. The Dean pointed out to the students the arduous and toilsome profession they had chosen, but assured them that in it, if faithful, they would find that which was pleasant and agreeable, morally and intellectually it was a profession which could not be over-rated.

The dates originally decided upon for the meeting of the American Medico-Psychological Association having been found to conflict with the meeting of the American Medical Association at Saratoga, the date has been changed to June 17th to 21st, 1902. Dr. Burgess, of the Verdun Hospital for the Insane, is Chairman of the committee of arrangements. The meeting takes place in Montreal.

A Toronto Jury in an investigation into the death of a young woman suffering from goitre, under osteopathic treatment brought in the following verdict:—

"We find that the deceased came to her death in the rooms of H. C. Jaquith and Flora A. Frederick, in the Confederation Life Building, in this city, on Oct. 30, 1901, by suffocation from blood in the windpipe and lungs, caused by goitre. In view of the evidence and medical testimony submitted, we attach no responsibility to any person or persons. We believe that the course of treatment pursued by the persons in this case, Herbert Jaquith and Flora Frederick, under the name of osteopaths, is unskilful and dangerous, and we are of opinion that strict laws should be enacted which would put an end to this dangerous practice, and others of a kindred nature, which we have reason to believe are far too numerous in this city."

We believe that the verdict, setting forth as it does the dangers to which persons are exposed under treatment by unqualified and ignorant pretenders, is particularly timely and we trust it will not pass unheeded by the authorities competent to deal with the matter. Even if such investigations do not immediately lead to the enactment of laws for the public protection, they serve a good purpose in educating the community to the dangers to which they are exposed.

The Queen's Medical College had a successful opening on October 2nd, Justice Maciennan presided in the absence of Principal Grant who was still very ill. Among the others present were Rev. Dr. Barclay, Montreal; Drs. Fowler, Gassett, Ryan, Anglin, Mundell, Connell, Ross, Ford, Sullivan of Kingston; Dr. Gardner of New York and Dr. McPherson of Toronto. Dr. Sullivan, who made the speech of the occasion, referred to the progress of the medical college and its founder: "If Dr. Stewart did not found the institution, he took the credit anyway—and who dared deny it? When he stalked down street with his

Scotch tartan around him, the people knew that trouble was brewing. In every assize court and any other court he figured as plaintiff or defendant. 'Twas said he was crossed in love, that he had fought a duel, and was the best snipe-shot in the city. Well, in those old days, Dr. Stewart used to grind his class instead of teaching them. He always started with an examination, sitting at table with an old coat, and four wax candles before him." "It looked more like an Irish wake," exclaimed the doctor, while the audience roared."

There is probably no "cure" so absurd and fantastic as not to attract many seekers for health, who are intellectually incapable of seeing wherein the real merit of the system exists. The "Nudity cure" is one of the latest and most amusing crazes. It is thus described by a French journal:

"There is a village in Austria, near the Adriatic, where the Nudity cure is practised. The debilitated neurasthenics, the tired, etc., can go there and, in the costume of Adam, expose there individuals to the air, the sun's rays, or the rain. Thickets are carefully arranged so as to cut off all view of the patients: a hat and short trunks only are allowed; the sexes are separated. Baths, massage, gymnastics, and games are indulged in, and a strict vegetarian diet completes the treatment.—*Gaz. Hôpitaux*.

The inefficiency of the usual methods of dealing with internal hemorrhage by the physician are well appreciated.* The use of gelatine gives promise of better results. *The Medical Press and Circular* states that:

"Grinnow's experiments still confirm the opinion that gelatine, when subcutaneously injected, is a powerful styptic. His injection is two grammes of gelatine in a hundred grammes of a physiological solution of common salt injected into the thigh, side of the thorax, or abdominal wall. This treatment has been in his hands most efficacious in many cases of internal hemorrhage. The gelatine appears to rapidly act as a powerful agent in producing coagulation of the blood, and thus arresting the general diapedesis. There is one weak point in his experiments that militates against its success which he frankly admits. He tells us that some of his cases required a combination of drugs to effect the hæmostatic action."

The method requires care and is not entirely free from danger, as shown by the occurrence of two cases of tetanus in patients undergoing this treatment in Guy's Hospital.

The following are the officers of the Trinity Medical Society for the ensuing year: *Honorary President*: Dr Charles Sheard; *President*: W. T. Williams; *1st Vice-President*: J. H. Kidd; *2nd Vice-President*: A. J. Fraleigh; *3rd Vice-President*: G. H. Carlisle; *Secretary*: L. G. Allwood; *Representatives*: Toronto General Hospital, Dr. J. Martin; St. Michaels Hospital, Dr. Charles Elliott; Sick Children's Hospital, Dr. W. H. Lowry; Isolation Hospital, J. B. Coleridge. This society of the undergraduates holds its meetings every two weeks, the inaugural meeting for this session on November 6th being an exceedingly good one.

Only 81 cases of typhoid fever have been reported to the Toronto Board of Health up to November 1st of this year, the lowest record in ten years. In October only 16 cases were reported. When it is known

that as many as 156 cases of this disease have been reported during the corresponding month in other years it will be appreciated how satisfactory the present health of the city is.

Other contagious cases numbered during October: diphtheria, 71; scarlet fever, 69: last year they were: diphtheria, 106; scarlet fever, 37. The deaths from contagious diseases in the city last month were: scarlet fever, 6; diphtheria, 15: whooping cough, 3; typhoid, 5; tuberculosis, 33. Considering the above statistics, it is readily understood why the citizens of Toronto congratulate themselves and point to the Health Department as the one model branch of the City administration. If other branches were administered with equal energy, ability and general efficiency, the City Council would find their duties more agreeable.

We are pleased to publish in this issue of THE LANCET a reply from Dr. McPhedran to Dr. Oille's letter referring to the absence of an Ontario representative at the recent Tuberculosis Congress in London. While the Ontario profession may be slower than some others in matters such as Dr. Oille mentions, we doubt if any country in the world is more advanced as to legislation governing tuberculosis and to making provision for sanatoria for the treatment of persons suffering from the disease.

We are sure that Dr. Oille had no intention of reflecting personally on Prof. McPhedran but rather felt that one so able to do honor the Ontario profession should have been accredited in some representative way to the congress. The interest which he has always taken in promoting the campaign against tuberculosis and in educating the public in this province on the subject of prevention of the disease qualified him in a peculiar manner to represent us on that occasion and we believe the burden of Dr. Oille's complaint is that an opportunity was lost in not having him do so.

The Swedish Parliament has voted the sum of 850,000 kroner for the establishment of a public sanatorium for lung diseases in South Sweden. Two other sanatoria, one for Central, the other for North Sweden, have been established with the help of the fund of 2,200,000 kroner presented by the nation to King Oscar on the occasion of his jubilee not long ago. For all three sanatoria the state has provided the site and the timber required for the buildings.

Queen Sophia takes a special interest in the provision of sanatoria for lung diseases in Sweden, and it was at her wish that the national gift to the King was applied for this purpose.

The officers for the year of the Post Graduates' Medical Society have been elected at a meeting at the General Hospital as follows:—Hon. President, Dr. J. T. Fotheringham; Hon. Vice-President, Dr. Goldie; President, Dr. F. A. Cleland; Vice-President, Dr. J. Chisholm; Secretary-Treasurer, Dr. J. H. Brent; Committee, Drs. O'Brien and Currie. Dr. A. C. Macdougall presided at the meeting.

SOCIETY REPORTS.

SOUTHERN MANITOBA MEDICAL ASSOCIATION.

A LARGE meeting of the medical men of Southern Manitoba was held at Napinka on Oct. 9th for the purpose of organizing an association in that district. Among those present were Drs. B. J. McConnell, of Morden; J. A. McDonald, of Brandon; George Riddell, of Crystal City; F. L. Schaffner, of Boissevain, and Drs. Longheed, Hughes, McEown and Lamont, of the Glenboro line, and Drs. Davidson, Byers, Knight, Alexander, McDonald and Casselman, of the Deloraine line.

Dr. Schaffner, who had taken an active part in arranging the meeting, occupied the chair. After a discussion and full consideration of the matter it was resolved that an association be formed to include the three southern lines of railway west of Winnipeg and the Pipestone branch. The following officers were then elected: Dr. B. J. McConnell, Morden president; F. L. Schaffner, Boissevain, vice-president; T. J. Lamont, Treherne, secretary-treasurer. Executive council: Dr. Riddell, Crystal City; Dr. Longheed, Glenboro; Dr. McEown, Hartney, Dr. Brown, Carman, and Dr. Cleghorn, Baldur.

After the business part of the meeting was disposed of the members of the association dined at the Russel House, a very pleasant evening being spent. The profession of Southern Manitoba are to be congratulated in this evidence of their public spirit and progressiveness.

TORONTO MEDICAL SOCIETY.

THE opening address of the Toronto Medical Society was delivered by the President, Dr. F. N. G. Starr. He dealt in a most interesting manner with the fathers of medicine in Toronto, under the title of "The Passing of the Surgeon." He outlined the careers of Dr. James Macaulay, Grant Powell, Christopher Widmer, Peter Deihl, John Rolph, William Beaumont, Charles Gwynne, E. M. Hodder, James De La Hooke and others who did so much for our profession in the early days and whose names are now scarcely known to many of the younger generation of physicians. H. H. Wright, Norman Bethune, Thos. Aikins, James Ross, John Fulton, Lachlin McFarlane and Frederick Strange belong to a later period and their memories are still green. Dr. Starr's address was illustrated with excellent photographs of these old surgeons, displayed by means of a lantern. Too little attention has heretofore been given in Toronto to the history of medical education in the province and in devoting an evening to reviewing the careers of those to whom we owe so much Dr. Starr has set an example which we hope may have many followers.

PERSONAL.

Dr. H. Softly (Trinity '98) has begun practice at Maxwell, Ont.

Dr. Thos. M. Williamson (Trinity '92), of Saginaw City, Mich., has been spending a holiday in Toronto and other parts of Ontario.

Dr. Alex. J. Mackenzie, late of the resident medical staff, Toronto General Hospital, has been appointed physician to Upper Canada College.

Dr. J. J. McKenna, for the past two years resident physician to St. Michael's Hospital, has opened an office on Church St., Toronto.

Dr. R. R. Bensley, for some years demonstrator in embryology and histology Toronty University, has accepted a similar appointment in the University of Chicago.

Dr. Harvey Clare, of the Orillia Asylum, has been made assistant physician at the Brockville Asylum. Dr. Wilson has been transferred from Brockville to London.

Dr. G. A. Schmidt and Dr. Turnbull, late of the resident medical staff of the Toronto General Hospital, leave shortly to spend a year in post-graduate study in Europe.

Among the recent deaths among the profession were Dr. H. W. Bain, of Prince Albert, N.W.T.; Dr. Charles de Martigney, Montreal; and Truman W. Duncombe, of St. Thomas.

Dr. G. A. Charlton, McGill College, Montreal, and Dr. P. G. Wooley, Johns Hopkins University, Baltimore, have been appointed Fellows in Pathology in McGill University Medical Faculty.

Three Nova Scotia medical men. Dr. E. E. Bisset, of Port Morien, Dr. W. P. Ternan, of Sidney, and Dr. Dugald Stewart, of Bridgewater, have recently suffered from attacks of typhoid. All have recovered.

The following gentlemen have been elected to the Senate of the University of Toronto by acclamation. Dr. W. H. B. Aikens, Mr. I. H. Cameron, Dr. Adam H. Wright and Dr. James M. McCallum.

Dr. Victor A. Hart and Dr. Fred J. Hart (Trinity '94) who have been practising for a number of years in Sault Ste Marie, Mich., are returning to their native land and taking up practice at Barrie, Ont.

Dr. F. W. Marlow, late house physician to St. Michael's Hospital, Toronto, has left for Europe where he will spend a year in post-graduate study. During his absence Dr. Marlow will act as London correspondent to THE CANADA LANCET.

Dr. Gow (Toronto '98), formerly a resident physician in the Sick Children's and General Hospitals, Toronto, and lately on the resident staff of the Johns Hopkins Hospital, Baltimore, is visiting friends in Toronto.

The many friends of Dr. James Third, Professor of Medicine in Queen's University, will be pleased to learn that he has quite recovered from the attack of multiple neuritis from which he suffered during the past winter, and has resumed his professional duties.

Dr. G. E. DeWitt, of Wolfville, N.S., read a valuable paper on "Fresh Air in the Treatment of Consumption" before the Maritime Medical Association last July. It is printed in the October *Maritime Medical News*. Dr. DeWitt thinks the value of fresh air should be taught in the public schools.

Dr. J. M. Jory, of St. Catharines, Ont., will have the sympathy of his professional brethren in the sudden death of his wife, on October 13th. The deceased lady was a daughter of Dr. S. P. Ford, of Norwood, Ont., the Conservative candidate for East Peterboro in the coming elections for the Legislative Assembly.

Dr. H. G. Barrie (Trinity '98), the popular Y.M.C.A. representative with the Royal Canadian Regiment in South Africa, was married recently in Yokohama to Miss Macdonald, daughter of the late Senator John Macdonald, of Toronto. Dr. Barrie is at present engaged in medical missionary work in China.

The following have recently been elected to office in the Quebec College of Physicians and Surgeons: President, Dr. Lachapelle, Montreal; Vice-presidents, Dr. Vallee, Quebec, and Dr. Craik, Montreal; Registrar, Dr. Marsolais, Montreal; Treasurer, Dr. Jobin, Quebec; Secretaries, Dr. McDonald, Montreal, and Dr. Paquin, Quebec.

CORRESPONDENCE.

To the Editor of THE CANADA LANCET.

DEAR SIR,—Dr. Oille's letter in your last issue calls for a brief reply. I can scarcely believe that the Doctor would have made his uncalled for and unjust strictures had he been possessed of the facts. My visit to London was timed so that I could avail myself of the opportunity of being present at the Congress, many of whose sessions I attended with much pleasure and not a little profit. I was not commissioned to represent anyone. Being there as a private member I had no special message to give that was not communicated over and over again in many of the papers read. As a silent member I was in good company, among whom were many of the most distinguished men there. Had the papers and discussions been restricted to those who had something of importance to communicate, not a few of those who took part in the proceedings

would also have maintained a golden silence and the results of the Congress would not have suffered materially thereby.

As to the Faculty of Medicine of the University of Toronto not having sent a representative the criticism is even more unjust. So far as I am aware no other similar institution had representatives present. A few delegates registered as members of Universities without having been expressly delegated, and I might have done so likewise had it occurred to me that such was desirable. I might also have offered some remarks in a few of the discussions, or even prepared a paper, had I thought that by so doing the University and the Faculty of Medicine would have been saved animadversion, or their reputation materially advanced.

I may furthermore point out that there are important congresses and meetings being held from time to time, such as the British Association for the Advancement of Science, the International Congress of Physiology, etc., at which it would be both pleasant and profitable for the Faculty to be represented, but the expense of sending delegates would, I fear, be more than it can well bear. Of course if any friends can see their way clear to provide the wherewithal, the Faculty will be delighted to send the delegates, and will see to it, too, that they do their part in "upholding the standing and authority of this centre of Medical Science."

Hoping that this brief statement will suffice to exonerate both the University and the Faculty as well as myself, in the minds of your readers and also in that of Dr. Oille.

Yours sincerely,
A. MCPHEDRAN.

Toronto,
1st November, 1901.

BOOK REVIEWS.

PENROSE'S DISEASES OF WOMEN.

A text book of Diseases of Women. By Charles B. Penrose, M.D., Ph D., formerly Professor of Gynecology in the University of Pennsylvania. Fourth Edition Revised. Octavia volume of 539 pages, handsomely illustrated. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, \$3.75 net. Toronto: J. A. Carveth & Co.

Regularly every year a new edition of this excellent text book, is called for, and although it is distinctly a text book, it appears to be in as great favor with physicians as with students. The new edition has been carefully revised, much new matter has been added, and a number of new original illustrations have been introduced. In its revised form this volume continues to be an admirable exposition of the present status of gynecologic practice in this country.

The author's methods of dealing with displacements and lacerations are excellent. He attaches much importance to the proper restoration of the perineum in all cases; and the treatment of the subinvolution so generally present. The method of amputating the cervix is clearly stated. From an operative point of view, this is an important section of the work.

Cervical catarrh is handled in a specially interesting manner. Much attention is given to the general and local treatment of the condition; good tonics should be given, and the bowels well regulated. He deprecates the use of too strong astringents; he recommends one or two grains chloride of zinc to the ounce, pure carbolic acid is often useful. One of the best local applications is Churchill's tincture of iodine, or two parts tincture of iodine and one part carbolic acid.

Under the treatment of gonorrhoea in women, the author remarks that when the disease has extended into the cervical canal or endometrium it may be necessary to curette it thoroughly and then apply pure carbolic acid.

In closing the opening after abdominal operations, he recommends through-and-through sutures. Many would differ from this practice.

J. F.

MANUAL OF THE DISEASES OF THE EYE FOR STUDENTS AND GENERAL PRACTITIONERS.

By Charles H. May, M.D., New York.

Perhaps the most striking feature of this book, is the great amount the author says, in so small a compass. The second revised addition has been enlarged, but the added matter is all very useful, and the new plates especially the colored, add very much, not only to the appearance of the book; but will prove a help to the student. The work is up to date and practical throughout.

C. TROW.

VECKI'S SEXUAL IMPOTENCE.

The Pathology and Treatment of Sexual Impotence. By Victor G. Vecki, M. D. Third Edition, Revised and Enlarged. 12mo, 329 pages. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, \$2.00 net. Canadian Agents, J. A. Carveth & Co., Toronto.

The reading part of the Medical profession of America and England has passed judgment on this monograph. The whole subject of sexual impotence and its treatment is discussed by the author in an exhaustive and thoroughly scientific manner. The former edition was exhausted in less than two years. In this edition the book has been thoroughly revised, and new matter has been added, especially to the portion dealing with treatment.

Although no one denies that the sexual function is of the very greatest consequence to the individual as well as to society in general, yet the subject of impotence has but seldom been treated in this country in the truly scientific spirit that its preeminent importance deserves, and this

volume will come to many as a revelation of the possibilities of therapeutics in this important field. The author ventures to assert that in many cases it is a better deed to restore to an impotent man the power so precious to every individual, than to preserve a dangerously sick person from death, for in many cases death is preferable to impotence.

It is a well-written, scientific work, and can be recommended as a scholarly treatise on its subject. A.

JOHNNIE COURTEAU, AND OTHER POEMS.

By William Henry Drummond, author of "the Habitant," illustrated by F. S. Coburn, New York : G. P. Putnam's & Sons.

In his new volume of dialect poems Dr. Drummond displays the same delightful combination of humor and pathos which has won so much popularity for "The Habitant." In this collection, as in the other, he gives us a few of the types of French Canadian character who, talking English with their irresistibly funny pronunciation, can inspire us with affection as well as amuse us. It is by his sympathetic insight into the life and people of French Canada that Dr. Drummond is able to do this. Johnnie Courteau is a rough hunter who is tamed by marriage with a shrewd managing little Canadian girl into a sober and industrious "marie." Fader O'Hara, the good cure, illustrates perfectly the relation between people and priest. And so on, in nearly every poem we get the kindly view of the French Canadian, seen at his best, simple, hospitable, amusingly boastful. It is really the voice of the "Canadian" asking his English-speaking fellow countrymen to understand him and be friendly. It is not Dr. Drummond's fault if the two branches of the race do not appreciate each the other. C.

BERGEY'S PRINCIPLES OF HYGIENE.

The Principles of Hygiene : A practical Manual for Students, Physicians, and Health Officers. By D. H. Bergey, A.M., M.D., First Assistant, Laboratory of Hygiene. University of Pennsylvania. Octavo volume of 495 pages, illustrated. Philadelphia and London : W. B. Saunders & Company, 1901. Cloth, \$3.00 net. J. A. Carveth & Co., Toronto.

This book is intended to meet the needs of students of medicine in the acquirements of a knowledge of those principles upon which modern hygienic practices are based, and to aid physicians and Health officers in familiarizing themselves with the advances made in hygiene and sanitation in recent years. The book is based on the most recent discoveries, and represents the practical advances made in the science of hygiene up to date.

The chapter on school hygiene is of more than passing interest. The site, drainage, structure of walls, cubic space and floor space, relation of window space to cubic space, lighting, the position of blackboards, ventilation, heating, closets, sewage, desks, seats, defects in school-buildings, are carefully considered. Medical inspection is urged. It is pointed out that no one can render such effective service in the above matters as a competent physician. In all these matters the advice of a medical authority in hygiene should be taken. This will no doubt soon be the rule, especially in large cities.

The germ theory of disease is well handled. The doctrine of immunity is clearly stated, and the method of the spread of diseases due to micro-organisms. Disinfection is discussed in a satisfactory manner. Much interesting information is given on the spread of disease by mosquitoes and rats. The value of vaccination is given as capable of lessening the death rate at least five times among those who take smallpox; while a very small percentage of those properly vaccinated contract the disease at all

J. F.

MANUAL OF CHEMISTRY.

A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A text-book specially adapted for Students of Medicine, Pharmacy and Dentistry. By W. Simon, Ph. D., M.D., Professor of Chemistry in the College of Physicians and Surgeons of Baltimore, in the Maryland College of Pharmacy, and in the Baltimore College of Dental Surgery. Seventh Edition. Lea Brothers & Co., Philadelphia and New York, 1901.

Simon's Chemistry is one of the few works published on the subject which is specially written for students in medicine and kindred professions. The author has attempted with a considerable degree of success to incorporate in one volume the whole subject of medical chemistry, inorganic, organic and physiological. In keeping with the object of the work he places in the foreground all facts which are of interest to the physician, pharmacist and dentist, and excludes or passes over lightly those parts of the subject which have not a direct bearing on medical science. Thus in the section on chemical physics, the spectroscope, polariscope, and the theory of electrolysis are clearly described; and in the part of the work devoted to inorganic and organic chemistry particular attention is given to the chemistry of those compounds which are used in medicine.

In that part of the Manual devoted to the consideration of the non-metals, metals, and their combinations, we regret to see that the author does not make use of the periodic classification of the elements, an aid which most teachers of chemistry consider of great value in studying the subject.

The extensive subject of organic chemistry is necessarily considered in an incomplete form; but, we think, the text contains sufficient matter to give a student a clear insight into this important branch of chemical science.

The last—the seventh—edition, the sections on physiological chemistry have been considerably enlarged by the addition of much new matter. This, no doubt will be appreciated by the profession as the brevity of this part of the work in former edition was considered a deficit.

We recommend the book to the student and general practitioner as a volume of moderate size, yet containing almost all that is important for them to know in chemistry.

G. C.

LOCKWOOD'S PRACTICE OF MEDICINE.

A Manual of the Practice of Medicine. By George Roe Lockwood, M.D., Professor of Practice in the Woman's Medical College of the New York Infirmary. Second Edition, Revised and Enlarged. Octavo volume of 847 pages, with 79 illustrations and 20 full-page plates. Philadelphia and London: W. B. Saunders & Company, 1901. Cloth, \$4.00 net. Toronto: J. A. Carveth & Co.

The new edition of this work (1901) has been brought up to date. One needs only to read the chapter on malaria to be aware that the author has made use of the latest research.

The work admirably fills the position for which it is intended—a place between the insufficient "Compend" and the often more than sufficient "System of Medicine."

Among the numerous works on Practice this one is worthy of a place. The description of diseases and their treatment given are terse and clear, and the work gives in a most concise manner the points essential to treatment usually enumerated in the most elaborate works.

L. B.

A MANUAL OF SYPHILIS AND VENEREAL DISEASES.

By James Nevins Hyde, A. M., M. D., Professor of Skin, Genito-Urinary, and Venereal Diseases, Rush Medical College, Chicago. Second Edition, revised and enlarged, with 58 Illustrations in the Text, and 19 full-page Lithographic Plates. Price, \$4.00 net. Philadelphia: W. B. Saunders & Co., 1900. J. A. Carveth & Co., Toronto, Canadian Agents.

The publication of the second edition of this work will be welcomed by all who take an interest—as all practitioners must—in the recognition and treatment of syphilis and venereal diseases. The first 278 pages are devoted to the discussion of the manifestations of syphilis in the various tissues and organs and its appropriate treatment. Acquired syphilis is first dealt with in a general way and then syphilis of the skin, hair, mouth and tongue, respiratory tract bones, muscles, joints, alimentary tract, nervous system, ocular apparatus, etc., are treated in separate articles devoted to them. Hereditary syphilis in its multiform manifestations is then taken up.

The second part of the work—303 pages in all, discusses first the subject of chaneroid, disorders not invariably venereal as balanitis, phimosis, paraphimosis, herpes progenitalis, hypochondriasis. Then acute urethritis, chronic urethritis, epididymitis, prostatitis, vesiculitis, cystitis, pyelitis, gonorrhoeal rheumatism, stricture of the urethra and gonorrhoea in women, etc., are fully dealt with and their proper treatment indicated. The illustrations are well chosen and beautifully executed and the whole work is a credit to the bookmaker's art. The volume can be recommended as a full, safe and altogether satisfactory guide to the matters with which it deals. One cannot commend it too highly.

H. B. A.

PROGRESSIVE MEDICINE.

VOL. III. SEPT. 1901.

Diseases of the Thorax and its Viscera, including Heart, Lungs and Vessels. Dermatology and Syphilis. Diseases of the Nervous System, Obstetrics. Lea Bros. & Co., Philadelphia and New York.

To those medically inclined rather than surgically, this volume is a feast of good things.

The first named topics are treated of by William Ewart, F.R.C.P. of St. George's Hospital, London—with all the erudition and thoroughness which is so characteristic of his work.

Dermatology and Syphilis is from the hands of Gottheil of New York, most modern and useful, with many excellent illustrations.

Diseases of the Nervous System, by Spiller of Philadelphia, are handled in an interesting style. Particularly he refers to Babinsky's sign, pp. 244-6, a topic still of great interest to the general practitioner as well as to the Neurologist.

Norris, of the University of Pennsylvania gives an excellent 100 pages on Obstetrical subjects, full of clinical value, such as 'Care of the Teeth in Pregnancy,' 'Management of Pregnancy' and 'Labour complicated by Cardiac Disease,' Hemorrhage, the Surgery of Obstetrics, and etc.

The volume seems to the reviewer to be better even than usual.

J. T. F.

MODERN SURGERY.—GENERAL AND OPERATIVE.

By John Chalmers Dacosta, M. D., Prof. of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College; Surgeon to the Philadelphia Hospital and to St. Joseph's Hospital, Philadelphia. With 493 illustrations. Third Edition; revised and enlarged. Philadelphia and London: W. B. Saunders & Co. Canadian Agents, J. A. Carveth & Co., Toronto, Ont.

In this age of "text-book making" this work will surely hold its own. Its preface tells us that "the work seeks to stand between the

complete but cumbrous text-book and the incomplete but concentrated compend" and a perusal of the book shows that the author has pretty thoroughly lived up to this ideal. In a one volume work of 1100 pages, which seeks to cover the whole vast subject of surgery, undue concentration and suppression is necessary; therefore our author wisely omits the more thoroughly specialized branches, to the benefit of those diseases and injuries met with in the daily routine of surgical work. The book is not only a compilation of the best that has been written in recent years but in addition the author has drawn largely on his own experience. He has been wise, too, we think, in placing a chapter in bacteriology at the forefront of his book.

One of the most interesting chapters is that upon "Diseases and Injuries of the Abdomen." This is on the whole a well written section, showing considerable originality and independence of thought. In the paragraph on appendicitis for instance, it is refreshing to note how thoroughly the author opposes the very radical opinions of many of his countrymen, in the matter of operation. Altogether it is a work to be commended to student and general practitioner.

G. A. B.

PUBLISHERS' DEPARTMENT.

Prof. Schweitzer at Detroit.

Prof. H. Schweitzer, Secretary of the American branch of the Society of Chemical Industry of London, recently visited Detroit and was much impressed with the Parke, Davis & Co. plant, especially with the biological department. He was also impressed with the circulating library for employees, the emergency hospital, and the general treatment employees received.

The professor was asked why such plants are not established in the old world. He said:

"The reason is that in the countries of Europe every druggist is a manufacturer. He compounds his own medicines in the back room of his store. He has his own laboratory, and there he experiments. Here it is different. If the druggists of the old world could have walked through the plant that I walked through to-day, they would no doubt have become discouraged, for they would realize that they could never hope to learn in a lifetime what is learned in that institution every hour."

Similar to the Effect of Sunlight.

The physiological-chemistry of antikamnia, in disease, exhibits analgetic, antiperiodic, antipyretic and antiseptic functions. Its antiperiodic tendency is similar to the effect of sunlight, though differently expressed. However with antikamnia this latter function is materially aided when

combined with other well-known drugs, such as quinine and the milder laxatives. The ideal combination I have in mind may be obtained in "laxative antikaninia and quinine tablets." To reduce fever, quiet pain, and at the same time administer a gentle tonic-laxative is to accomplish a great deal with a single tablet. Among the many diseases and affections which call for such a combination, I might mention la grippe, influenza, coryza, coughs and colds, chills and fever, and dengue with its general discomfort and great debility. These tablets administered in doses of one or two and repeated every one or two hours are a perfect antiperiodic in malaria, and a perfect reconstituent tonic—an expression of solar life, light and energy in malarial anaemia.—L. P. Hammond, A. B., M. D., in *The Medicus*.

A Clinical Report on Gude's Pepto-Mangan.

There may still be some doubt whether manganese is a normal constituent of the human blood or of any of the tissues of the body writes Samuel Wolfe, A. M., M. D., Physician to Philadelphia Hospital. It may not have been positively determined whether iron, when given in an inorganic compound or in pure metallic form, is absorbed by the mucous membrane of the stomach or intestinal canal, or whether it accomplishes its curative work by some occult process of stimulation of that membrane, by virtue of which it takes up with greater readiness the nutritive portions of food substances which are presented to it at the same time; or whether it plays a chemical role in changing the contents of the alimentary canal, so that what eventually passes into the circulation is more fitted to maintain high standards of nutrition or will prove less deleterious to the processes of life.

My observations with Pepto-Mangan are such as can be easily confirmed by any physician, since they were all made in private practice, and rest on bedside and office notes. I have used the preparation to a considerable extent ever since it was first brought to my notice, which I think was about two years ago. Owing to some specially good results obtained, I was led to the series of recorded observations on which this paper is based. They extend over four months of time, and embrace about fifty cases.

In one series of twenty-three cases the patients were all married women, ranging from the ages of twenty-two to seventy, who were more or less anæmic from various causes. In all but five the results were decidedly satisfactory, and of these one failed to report the second time, so that the result is not known. The other four were cases of advanced organic disease, in which no therapeutic procedure could have given decided results. In nine of the twenty-three cases the results might be classed as brilliant. In all of the others I am convinced that no other preparation of iron could have done more.

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THE BACTERIOLOGY OF TUBERCULOSIS.

BY PROFESSOR J. J. MACKENZIE, Toronto University Medical Faculty

IT is, to-day, but a few months under twenty years, since Robert Koch first published the results of his investigations upon the etiology of tuberculosis, in the *Berliner klinische Wochenschrift*, and although our knowledge of the disease and its bacteriology has slowly progressed since that date, his work remains as one of the best examples of careful and thorough investigation before publication, that we know of. In the case of no other disease have the foundations of etiology been so well laid; in fact, if we seek for comparisons, the best is Koch's own work on anthrax, the publication of which led to his removal from a country practice to the directorship of the Hygienic Institute in Berlin.

As a result of these studies we were taught how to recognize the bacillus in the tissues, and how to cultivate it in artificial media and although we now have a variety of staining methods, they are all largely based on the indications given in Koch's early articles; and whilst we have found that the demands of the bacillus in regard to food *in vitro* are much less exacting than believed by him, still for luxuriant culture our best methods approach those given in 1882.

It is hardly necessary in this article to give a detailed account of the processes of staining and cultivating the bacillus, which may be found in any elementary textbook, but it may be well to touch briefly on certain points which seem to have a bearing on the etiology of the disease and on the relationships of the organism to other forms.

As first described, we recognized the bacillus of tuberculosis as a slender, unbranched rod, straight, or slightly curved, which took the stain used to demonstrate it with difficulty, but which retained that stain with marked tenacity when subjected to decolorizing reagents such as alcohol or acids.

It was however soon noted by a number of observers, that the organism did not always show this unbranched character, but that sometimes in the tissues, more often in the cultures, it showed a tendency to form short branches, which led to a doubt as to the advisability of classifying it with the other bacteria. Whether this branching is to be considered true branching or not, its existence is undoubted, and gradually extending observations have shown that not only the bacillus of tuber-

culosis but a number of other forms, such as the actinomyces organism, the smegma bacillus, and such organisms as Rabinowitch's butter bacillus, and those found by Mceller in grass and fæces show the same branching. On this account and on account of a resemblance in staining and cultural characters, but more important still because of a tendency which they all have of giving rise to a chronic proliferative inflammation with the formation of granulomata more or less like the typical tubercle, these organisms have been classed together. Lehmann and Neumann suggest that all these organisms be classified apart from the typical bacteria as Mycobacteria; by others they have been called Streptothricaceæ.

Although these facts are of interest in determining the affinities of the bacillus, they do not, of course, in any way affect its position as the cause of the disease tuberculosis, but on the other they give us, in our ability to study its near relatives, a means of throwing light upon such biological problems as the production of proliferative inflammations by bacteria, and the question of natural and acquired immunity to these organisms.

In the first morphological studies upon the bacillus of tuberculosis, it was observed that certain oval areas could not be stained by any possible method, and subsequent observations showed that these areas, although not always found, were often present in old or degenerating individuals. These were interpreted by Koch to be spores, similar in character to the spores of the anthrax bacillus; the spores of the anthrax bacillus are more difficult to stain than the growing bacillus and are oval in form, and one would, therefore, expect the spores of the bacillus of tuberculosis to show a similar resistance to stains. Another observation which seemed to support this view, that spores were formed by the tubercle bacillus, was the difficulty of demonstrating them in lesions undoubtedly of a tuberculous nature; it being argued, that since the material from such lesions would produce tuberculosis in animals, whilst microscopic examination failed to show the organisms, these must be present in some form which resisted staining, and so presumably as spores.

The spore of a micro-organism is a form in which it is able to resist unfavorable conditions better than in the vegetative state and this resistance is typically shown in the greater resistance to heat of the anthrax spore. The tubercle bacillus is probably more resistant than many of the ordinary forms of micro-organisms, but as far as we know, it never in any form shows that resistance to heat and other bactericidal agents which is characteristic of the spores of anthrax or tetanus. We consequently have no evidence that spores exist.

The tinctorial characters of the tubercle bacillus have been found to be due to the impregnation of the cell membrane with fatty acids, probably also with a wax-like substance, and perhaps also with a material

allied to chitin. The presence of similar substances accounts for the staining characters of the related forms of the group of *Mycobacteria* and may possibly have an important bearing on the peculiar type of inflammatory reaction which is characteristic of the whole group.

The bacillus, although somewhat more resistant to adverse conditions than some of the more delicate organisms, is, at the same time, comparatively easily destroyed by bactericidal agents. Direct sunlight for about twenty-four hours will kill it almost certainly and Theobald Smith has shown that a temperature of 60° C for fifteen minutes is fatal to it, when suspended in bouillon or milk, whilst an exposure to 70° C is only necessary for ten minutes to achieve the same result. Drying slowly kills the bacilli in sputum, first apparently lowering the virulence.

The problem of the isolation of the toxins of the bacillus and their chemical nature presents the most difficult problem with which we have to deal in attempting to explain the pathogenic phenomena associated with the disease. One of the results of the first attempts was the production of Koch's original tuberculin. Although this extract of the bacilli must be considered a specific product on account of the characteristic temperature reaction which results from its injection into tuberculous animals, yet it is exceedingly doubtful if it presents the true toxin of the organism. The method of manufacture is altogether too gross, the prolonged boiling necessary, too certainly destructive to any substances which we now recognize as toxins, to expect that such a product could be the original poison present within and about the bacilli.

A much more probable representative is the newer tuberculin R of Koch, which was obtained by mechanical trituration of the bacilli and a similar substance has been obtained by Hahn, who triturated the bacilli with quartz sand and then subjected them to enormous pressure, obtaining a clear extract which he called tuberculoplasmin.

The tendency of tuberculous lesions to assume a local character—I mean local in regard to the distribution of the bacillus, and the fact that Prudden and Hodenpyl and following them many others observers succeeding in producing histologically typical tubercles by the injection of dead bacilli (although in the majority of experiments without caseation) points to the fact that the specific poison of the organism is so intimately associated with its protoplasm that it is not liberated until the bacillus begins to disintegrate and renders it probable that it is of the nature of a nucleoproteid.

At the same time it is not necessary to conclude that this toxic substance is in itself specially resistant, since Hahn's tuberculoplasmin is destroyed by a temperature of 60° C., but the disintegration of the organism and the consequent liberation of the toxin is hindered by the

peculiarly resistant nature of the cell membrane, thus giving rise to a more chronic type of inflammation with, as a result, a proliferation of the fixed connective tissue cells. This same explanation holds for the related organisms of the group which give rise to the so-called pseudotuberculouses.

The bacillus of tuberculosis as found in human tissues presents considerable variation in virulence when isolated and tried on laboratory animals, but the variations in virulence does not always correspond to the degree of acuteness of the lesion from which the organism has been isolated, for instance from two very similar types of lymphadenitis bacilli of quite different virulence have been isolated. The subject of the virulence of the bovine variety for man is a question which is not yet settled, but there is quite as much evidence in favor of this variety being more virulent than the human form as for the contrary opinion expressed by Koch at the London Congress of Tuberculosis. In tuberculous lesions in man it is a remarkable fact that the bacilli are often met with most sparingly. In a tuberculous lymph gland, it sometimes requires a very careful search to find an occasional bacillus in a giant cell or in one of the epithelioid cells. The number of bacilli which we find in sputum are evidently due to multiplication in cavities and similar situations and it is very rare to find in man the enormous numbers of organisms which we commonly see in the tissues of experimentally infected animals. Recently in some experiments upon the production of inhalation tuberculosis in guinea pigs, one of Flüggé's pupils met with a few caseating bronchial glands with very few bacilli, in certain of his animals. As he points out, these lesions probably more closely approach the ordinary conditions of inhalation infection in man, than the usual animal experiments show. This difficulty of demonstrating the bacilli in certain human lesions was used as an argument in favor of the formation of spores. But as pointed out above there is absolutely no evidence for the formation of spores and in every tuberculous lesion, careful search will reveal the bacilli even if few in numbers. It may be that the methods of fixation of the tissues may have some influence upon the staining of the bacilli *in situ* but all our knowledge of the organism seems to point to the ability of comparatively few individuals setting relatively severe pathological changes

In the etiology of the different forms of tuberculosis, the presence of other bacteria plays an exceedingly important part. Clinicians have long been convinced that except where large numbers of virulent bacilli invade the tissues, as in miliary tuberculosis, tuberculous meningitis or caseous pneumonia, the pure tuberculous process is one which tends towards recovery and consequently is readily treated. But where other organisms

are added on, as is probably almost always the case in phthisis, the problem is entirely altered. This is specially well shown in the tuberculous disease of bones and joints where the pure infection is so often treated so successfully by surgeons, yet when pyogenic organisms gain entrance to the tissues adequate treatment presents the greatest difficulties.

The bacteria which play the most important role in these mixed infections are the staphylococci, the streptococci, pneumococci and probably also the pneumobacillus of Friedlander and its allied forms. In phthisis these organisms are frequently found in the cavity wall influencing the pathological changes set up there and always about the tuberculous focus in the pneumonic areas, according to Sata in a recent paper in Ziegler's *Beiträge* the important factors in the characteristic catarrhal pneumonia; here they are often present alone or mixed with the tubercle bacilli. Indeed as Sata points out the disease phthisis is usually only at its inception a pure tuberculosis, and the pure tuberculosis of the lungs which is occasionally met with at autopsy is neither clinically nor in its pathological histology to be classed as phthisis.

The significance of these mixed infections in pulmonary tuberculosis, although recognized for a number of years, is only now beginning to bear fruit in the modern methods of handling the disease. Sprengler in one of the early papers on mixed infections in phthisis showed how valuable was the climatic treatment as carried out in Davos Platz, for these secondary infections. The first evidence of improvement was the disappearance of these secondary organisms from the sputum. The exposure of consumptive patients to the air of small, badly ventilated hospital wards, exposed not only to other patients of the same class but to all the varied infections of such a place, with coughing, spitting, talking patients all about them must mean the continued re-infection of lung cavities and pneumonic foci with repeated doses of virulent organisms, which must have a most serious influence on the course of the disease. And although an open air treatment of consumptives in verandahs, balconies and temporary shelters, in towns and cities may be a distinct advance on the handling of these cases in hospital wards, yet here also, the dust-laden atmosphere of cities is a menace. One often sees practical evidence of this in the difficulty which many so-called cured consumptives have in returning to the cities after successful treatment in sanatoria.

A discussion of the bacteriology of tuberculosis would hardly be complete without a reference to the ways by which the bacilli gain entrance into the body.

For many years the hereditary transmission of the disease was accepted by the profession to the exclusion of all other methods of in-

fection; with, however, an increased knowledge of the infecting agent and especially as a result of experimental investigation, it was demonstrated that transmission from male parent to offspring, *i.e.*, by infection of the sperm cell does not occur. From female parent to offspring infection may be transmitted through the placental circulation especially at the time of birth but not by direct infection of the ovum. This form of transmission can hardly be called congenital but rather an intrauterine infection.

Traumatic infection is an occasional source of the disease but such introductions of the bacilli are rarely of a serious character.

Infection through the alimentary tract undoubtedly sometimes occurs and has been demonstrated by experimental evidence, but as the great source of primary intestinal tuberculosis is probably infected milk, the whole question is still in a state of uncertainty on account of the contention of Koch that the bovine bacillus has slight virulence for man. This question which has aroused considerable discussion during the past summer, owing to the stand taken by Koch at the Congress of Tuberculosis, depends upon the difference in virulence for different animals of the human and bovine organisms. This was first clearly shown by the work of Theobald Smith, of Boston, and his work has been confirmed by others including Koch, but the conclusions which the latter drew are hardly justified by the facts at our disposal.

The bovine variety of the bacillus is more virulent for cattle and the ordinary experiment animals of the laboratory than the human form. But this is hardly good evidence that the bovine bacillus is consequently not virulent for man. The contrary opinion might be held from the evidence with perhaps better right, but before a definite opinion can be formed we must have more facts; especially we require more accurate clinical observations and fuller studies of the virulence of cultures from cases of alimentary and other forms of tuberculosis in young children and perhaps also evidence as to the virulence of the two varieties for such animals as the anthropoid apes.

By far the most important result of modern investigation, however, is the clear demonstration of the commonest method of human infection, *viz.*, by the respiratory tract. To Cornet, in his studies upon tuberculosis among the nursing classes of Germany, belongs, perhaps, the greatest credit for placing the whole question upon a thoroughly scientific foundation. Yet Cornet, as will be shown, did not properly appreciate the factors in respiratory infection in giving too much weight to the danger from dried sputum. His investigations, and those which followed had, however, this result, that the public were made fully aware of the danger

from the sputum and the practical outcome has been a decided improvement in the habits, not only of consumptives, but of people generally in the disposal of sputum. Our belief in the danger of dried sputum rests on the following observations : first, on the frequency of tuberculosis of the lungs among nurses and in prisons and other public institutions ; second, upon the presence of living virulent bacilli in the dust of rooms frequented or inhabited by consumptives ; and third, upon the actual experimental infection of the respiratory tracts of animals. But when the evidence is examined more closely it is seen that there is a certain insecurity in the foundations. As to the tuberculosis in institutions it is apparently only the prolonged exposure to the infection which is dangerous, Cornet found his best evidence among the nursing sisterhoods and brotherhoods where the whole life was given to the work and not among ordinary nurses. The evidence as to the presence of virulent bacilli in dust depended upon the intra peritoneal inoculation of guinea pigs with a considerable quantity of the dust. Finally, in the production of respiratory infections in animals, these were exposed to a spray of fluid sputum or of liquid suspensions of pure cultures.

All these facts have been pointed out by Flügge of Breslau in a very careful critique of the older experiments. It remained for him and his pupils, to point out what is probably the most common method of respiratory infection viz., by the spraying of bacilli-holding droplets into the air by coughing and talking consumptives.

These researches, which, are perhaps, the most important contributions upon the subjects which we have had in recent years, have a bearing, not only on the etiology of consumption, but also on infection in a great many other disease.

It was shown that a talking or coughing individual sprayed into the air, droplets so small that they might be carried by the lightest currents of air which we find in a room and even by the respiratory current a few inches from the mouth. These droplets always contain bacteria from the saliva and in the case of coughing consumptives can be shown to contain tubercle bacilli. The number of tubercle bacilli which may be present in these droplets varies much with the patient and the character of the cough ; some patients seem seldom to spray tubercle bacilli holding droplets, others produced them plentifully. The number of organisms in the sputum, the character of the cough and other factors played an important role in determining this. For instance the sharp, powerful cough, with open mouth and arched palate most frequently produced the fine bacilli-holding droplets which could be caught upon slides suspended within three feet of the mouth of the patient and stained in the ordin-

any way. As Flügge points out, the fairly healthy ambulatory patient may be a greater source of danger, than the bed-ridden consumptive, whose sputum may contain many more bacilli, but whose cough is so weak as to be an insufficient force to produce the fine spray of droplets.

Finally, the Breslau investigators succeeded in producing tuberculosis of the respiratory tract of guinea pigs by exposing them for several hours daily to coughing consumptives, at a distance of not more than three feet from the mouth of the patient, excluding, of course, the danger of dust infection.

They also demonstrated quite clearly that the danger from dust was not nearly so great as supposed. Sputum is very hygroscopic, it dries to form a tenacious mass which long retains a little moisture and is not readily converted into dust; when dried only the most vigorous methods of trituration will convert it into a dust which is still so coarse as to require fairly strong air currents to carry it.

Flügge sums up the whole question of respiratory infection as follows: It may occur from dried sputum where large quantities of it lodge on floor or furniture and it is disturbed by vigorous dry sweeping, or by the vibration of railway trains or heavy machinery; it may occur from coughing patients where the sprayed sputum contains the bacilli and persons expose themselves, as in the case of nurses and relatives, by hanging over the patients close to the mouth, or where coughing consumptives are living or working in crowded, ill-ventilated rooms, workshops or offices. But it is pointed out also that the danger from coughing patients diminishes rapidly, with distance from the mouth of the patient, more than a metre from the mouth it was difficult to find the bacilli-holding droplets and of course the simple expedient of holding a handkerchief or a hand before the mouth whilst coughing entirely removed the danger.

It will be seen from these researches that there has been a decided tendency of hygienists to overestimate the danger of infection. The incidence of the disease, the way in which it attacks successive members of a family, or the nurses who are long exposed to it in a hospital, or the fellow workmen in a crowded workshop, points to the nearness of approach to the patient necessary before danger arises; and the Breslau work, from the completeness of the exposition should go far towards removing the danger of infection.

Medical men are certainly to blame for the condition of panic in which the public are, in regard to tuberculosis, and which is converting the unfortunate consumptive into a social outcast; which reaches such an

absurd pitch that people write indignant letters to the daily papers when it is proposed to place a hospital for consumptives a half a mile from them.

Perhaps it was necessary to thoroughly frighten the public first in order that proper care should be taken to prevent the spread of the disease but it is now the duty of the medical profession to exactly point out where the danger lies and what precautions are necessary to avoid it. By so doing more will be done not only to limit the spread of the disease but also to effect a cure of the infected than by any other means.

THE HOME TREATMENT OF PULMONARY TUBERCULOSIS.

L EONARD WEBER, M.D., in the Post Graduate for November, discusses this phase of the subject. After reiterating the universal belief in the infectious nature of the disease, he points out the importance of careful and repeated physical examinations of the patient.

This is necessary to detect the first signs of bi-lateral affection, and also to judge of the severity of the disease for the purpose of prognosis, in order to know whether home treatment will be of any avail. Besides careful physical examinations for the early diagnosis, the writer believes the radiograph to be of some value, but he places most reliance on the tuberculin test, which he has never found harmful to his patients. Of the serum-reaction agglutination test he has no experience.

When a diagnosis is made, a cheerful prognosis should be given the patient; this is of greatest value in the early stage of the disease since in the later stages the patients are usually optimistic.

The first essential in treatment is rest in bed in the acute stage or until the temperature becomes normal. For high temperature and sweats the writer advises the use of the cold sponge, not the cold bath. As an antipyretic, phenacetine grs. 3, acetanálde gr. 1, antipyrine gr. 1, has been used successfully. The diet might be called forced feeding, the fat-producing materials being of special value. Cough is discouraged, and if the patient cannot control it, then codeia phosphate gr. $\frac{1}{4}$ is useful. c/c

So soon as the acute stages are past, and in cases in which acute symptoms are absent, creasote is used. The writer does not favor mixtures of creasote and oils in capsules, but gives the following mixture: - R. beechwood creasote, alcohol, aa. f. oz. I., M. Sig. 10 drops in half a tumblerful of milk or water, three times daily 1 hour after food. Double the dose every week until 60 drops per dose is given. When the stomach is very irritable or the heart weak, strychnia, digitalis and quinine may be given. When the patient does not respond to rest, sponge-baths, and creasote, and resource must be had to Sanatoria and climatic change.

A. C. H.

SIGNS AND SYMPTOMS OF TUBERCULOSIS OF THE LUNGS.

By ROBERT DAWSON RUDOLF, M.D., M.R.C.P., F.R.G.S.

TUBERCULOSIS occurs in the lungs in various forms, as follows:—

1. Acute miliary tuberculosis; 2. caseous tuberculosis; 3. fibroid tuberculosis; 4. fibro-caseous tuberculosis. This classification is the one suggested by Dr. Kingston Fowler and for the sake of description it will be the one adopted here, but it must never be forgotten that, while many typical cases exist, many occupy transitional positions between the classes, and that in most patients at one period or another more than one form of the disease exist. Thus, cases of acute miliary tuberculosis usually show a pre-existing form of chronic disease, and in the same lung one usually finds areas of caseation and areas of fibrosis, the former predominating in acute cases and the latter in the more chronic.

I. ACUTE MILIARY TUBERCULOSIS OF THE LUNGS.

As this subject is dealt with by Dr. Third in another paper, no further reference will be made to it here.

II. CASEOUS TUBERCULOSIS OF THE LUNGS.

This condition is also termed Pneumonic Phthisis and it occurs in two forms, corresponding morphologically with the two types of pneumonia. Hence we have, (a) Tuberculous lobular pneumonia. (b) Tuberculous lobar pneumonia.

The former is the more common form and usually occurs in children, while the latter is seen for the most part in adults, and is extremely rare.

Both varieties are frequently complicated by miliary tuberculosis dotted through the rest of the lungs. Caseous tuberculosis usually arises as a primary disease, although it may follow an old infection. This is an acute disease and hence its synonym of "galloping consumption", but it may show periods of arrest, and, from the formation of fibrous tissue, may drift into a condition of chronic tuberculosis. Such chronicity is rare however, and the disease is usually progressive and fatal in a few weeks.

Symptoms.—(a) In the broncho-pneumonic type the onset is usually insidious, but may be as sudden as in pneumonia. Occasionally hæmoptysis is the first symptom noticed. If the onset be sudden, repeated rigors may appear; if gradual then indefinite pains in the limbs, cough, progressive asthenia and some fever usually are noted.

Soon the fever is well marked and is of a high remittent type, the remissions being usually more marked than in the miliary form. Later on the curve may show an intermittent character, falling to below normal

in the mornings, and then profuse sweats are the rule. The expectoration is mucoid and then muco-purulent, and contains as a rule numerous tubercle bacilli. Frequently it is blood-stained. Emaciation is marked and as a rule the patient rapidly sinks.

(b) In the lobar variety the onset is usually sudden, although the patient may give a history of previously impaired health. The symptoms are so similar to those of true lobar pneumonia that few cases will be diagnosed at first. After a few days however, the delay in the crisis will excite suspicion and gradually the true nature of the infection becomes clear, and the examination of the rusty, or later purulent, expectoration will probably reveal the presence of the bacilli and perhaps of elastic tissue. The more rapid emaciation of the patient, a greater tendency to sweating and more or less urgent dyspnoea may cause the tuberculous infection to be suspected earlier; the temperature curve is more apt to be irregular, but very little reliance can be placed on such distinctions and the condition may not be suspected until the post-mortem reveals its true nature. The longer the consolidation remains unresolved, the more does the suspicion of tuberculosis press, and then, the profuse sweating, zig-zagging of the temperature, rapid emaciation and dyspnoea make the suspicion more strong. In every case where the crisis does not come as expected the sputum should be examined for tubercle bacilli and elastic tissue. The disease is nearly always fatal; sometimes in two weeks, more often after several. Occasionally a case may take on a less acute course and change into the condition of chronic tuberculosis.

The *Physical Signs* are at first just those of the corresponding forms of pneumonia. In the lobular variety signs of bronchitis plus patches of consolidation and collapse occur. The accompaniments are at first scanty, but later are numerous from the breaking down of small caseous areas and the formation of cavities. A pleuritic rub is often heard and then signs of effusion may follow.

In the lobar variety the physical signs are at first those of lobar pneumonia. Later on, instead of resolution, signs of cavity formation will likely occur, and by this time the continuance of the fever, the profuse sweating, and probably the presence of elastic tissue and tubercle bacilli in the purulent sputum, will have cleared the diagnosis.

III.—FIBROID TUBERCULOSIS OF THE LUNG.

This form of the disease is the very antithesis of the types that have so far been considered. It is characterized by chronicity and by the presence of signs rather than of symptoms. This is only one form of fibrosis of the lung. It may succeed upon chronic ulcerative tubercul-

osis, where the reparative process has overshadowed the destructive, while in other cases it follows tuberculous pleurisy. Again it appears to be primary, the tubercles proceeding at once to fibrosis without ceseation. The condition may be so marked as to produce great deformity of the chest by shrinkage, or very limited and so physically compensated for by surrounding emphysema as not to produce any such signs. The condition usually exists in one apex, although sometimes it is very wide-spread. The shrinking fibroid area frequently is the site of dilatations of the bronchi.—bronchiectasis, and usually one or more pulmonary cavities exist.

Symptoms.—The patient complains very little perhaps, and the condition may only be discovered by routine examination of the chest. The writer recently saw a case in which very marked shrinking of the right lung existed with great distortion of the chest, and yet the patient did not complain of any pulmonary symptoms beyond a slight cough. He was over 60 years of age and never remembered having suffered from any chest trouble. In another case seen a few years ago, the patient, a man aged 65, had been delicate since the age of 20, when he was prevented from pursuing his studies by the fact that he was consumptive. Although very spare, he was fairly vigorous and took his cold bath every morning, both in Summer and Winter. His chest was most markedly distorted and he had signs of extensive fibrosis of the lungs and his fingers showed a fair degree of clubbing.

There is generally a chronic cough with some expectoration, which may be chiefly bronchial and which may occasionally contain a few tubercle bacilli, but these are frequently not detected except after repeated examinations. There is usually some degree of emaciation and the temperature may show occasional evening rises, although it usually runs subnormal. Attacks of asthma are common and Dr. Fowler writes that "in delicate-looking individuals, the subjects of emphysema and liable to attacks of bronchial asthma, the existence of an arrested or slowly extending fibroid tuberculosis of the lung should always be suspected." A history of haemoptysis is common.

Physical Signs.—On inspection there is usually some and it may be great flattening over the affected area, usually an apex, and the movement will be limited here in proportion to the extent of the disease. The clavicle stands out with unusual prominence because, as the chest wall sinks, this bone, being part of the shoulder-girdle, does not participate in the deformity to any extent. Prominence of the superficial veins over the apex may be noted, owing to obstruction to the deeper venous return. The intercostal spaces are hollowed out. If the shrinkage be

great, then displacements of adjacent organs may be found, the heart being drawn over or abnormally exposed, the liver drawn up, etc.

On *palpation* there may be marked increase of vocal fremitus, or the reverse, all depending upon the amount of thickening of the pleura and the degree of surrounding emphysema, both of which factors will decrease the exaggerated vibration which would otherwise be conducted by the fibrosed lung.

On *percussion*, where there is deformity, a dull note will be elicited with usually a considerable degree of resistance. In cases where the fibrosis is limited and emphysema predominates, there may be little want of resonance or even hyper-resonance. Whatever be the extent of the local fibrosis, there is usually a considerable amount of general emphysema, produced by the prolonged coughing, as well as by compensation for the diminished space occupied by the diseased area; hence we get a hyper-resonant note over the rest of the chest and other signs of emphysema.

On *auscultation* over the fibrosed area, the type of breathing is usually more or less bronchial and may be loud or somewhat suppressed according to the condition of the pleura and the amount of emphysema. The vocal resonance, varying as the vocal fremitus, may be increased or decreased. There are very few accompaniments as a rule, none often even on coughing or deep breathing, but occasionally there may be coarse crepitations due to fluid in a bronchiectatic or true pulmonary cavity.

It is usually an easy matter to diagnose fibrosis of the lung, although slight cases may be masked by emphysema. It is much more difficult to find the nature of the fibrosis when tubercle bacilli cannot be obtained. The history of the case will help however.

IV.—FIBRO-CASEOUS TUBERCULOSIS OF THE LUNGS.

This is perhaps the best name for the common and more or less chronic form of pulmonary tuberculosis. Many synonyms exist however, *e.g.*, Chronic Ulcerative Tuberculosis of the Lungs, Chronic Pulmonary Tuberculosis, etc. The term "Phthisis Pulmonis" practically means the same thing nowadays, but as it has often been made to include non-tuberculous forms of pulmonary disease it is better avoided.

The disease is by far the commonest form of tuberculosis of the lungs; it is in fact the most widely spread and terrible scourge of the human race and is well termed the "white plague". "In the United States Census Report for 1890, 102,188 deaths were reported to be due to consumption" (Osler).

The disease being so universal, and moreover somewhat contagious, it behoves us to recognize the condition as soon as it occurs both for the

sake of the public health, and also for that of the individuals affected, as the earlier systematic treatment is commenced the better chance have they of recovery.

The *modes of onset* are various, as follows :

I. Perhaps the most common form of onset is the *bronchial* one, in which the patient gives a history of "taking cold easily" and getting rid of it with difficulty. Or he has "caught a cold and neglected it" and it has continued for weeks or longer, with cough and muco-purulent expectoration perhaps. Then, either the long continuance of the condition, or some superadded symptom, such as hæmoptysis or loss of weight, brings him to the physician. Cases of this type are not so likely nowadays to advance very far without detection, as the public are becoming more alive every day to the dread of tuberculosis and are only too apt to suspect its existence in the case of every bronchial catarrh which is not very quickly got rid of. Should an employe dare to cough for a week almost, he finds the suspicious eye of his employer fixed upon him, or his landlady hints at requiring his room for some friend who cannot be denied. Taking care that a few simple precautions are enforced regarding the destruction of the sputum, cases of tuberculosis are scarcely a source of danger to others, and if a panic be created, as is at present threatening, the public are in their turn apt on the one hand to take altogether unnecessary precautions, to the great hardship of the unfortunate individuals infected, and on the other to neglect the few simple precautions that are necessary. If tuberculous patients find that they are treated like pariahs, they will tend to neglect these simple precautions, because the carrying out of such would "give them away". They will tend to adopt a policy of concealment, which is quite possible often and yet fraught with danger to others.

II. Perhaps the next most common form of onset is the *insidious* one. The patient has not been feeling up to the mark lately, gets very easily tired and is losing weight. Probably he is dyspeptic, and may attribute his condition to this alone. Anæmia is often present, and, in the case of women, amenorrhœa is frequent, though an excessive menstrual flow may occasionally exist. He probably has some cough and a little muco-purulent expectoration in the morning, and this may occasionally be streaked with blood. Such an occurrence would at once raise suspicion, and if the temperature be taken in the evenings it probably will be found to be raised. Such patients usually feel better while they have the fever, and it is in the mornings, when this is absent, that they feel most lassitude.

III. In some cases the onset is *pleuritic*. It is fully admitted by all observers that a large proportion of acute pleurisies are of tuberculous

origin, either primary or secondary to disease of the lung beneath. The percentage varies according to different writers from 30 to 80 per cent., or even higher. It is not uncommon to have patients date their pulmonary trouble from such a condition, they saying that they were quite well until the pleurisy occurred. Sometimes such a history may be a correct one, but probably often they have been insidiously ill for some little time, but had not noticed their failing health until the pleurisy occurred. All cases of pulmonary tuberculosis eventually develop pleurisy, but occasionally this complication is the first symptom noted.

IV. Other cases seem to date from an attack of *hæmoptysis*, and this symptom is specially suspicious when it has not been preceded by violent exertion. When it occurs, and subsequently tuberculosis is evident, then probably the disease had already been present when the hæmorrhage took place. Hæmorrhage may be due to many causes, but when it appears in a young person without apparent cause, the chances are that he is tuberculous however well he may seem. There are notable exceptions to this rule, but they are exceptions.

V. Again, a few cases seem to start with *laryngeal* symptoms, and it is possible that this may be the case, although most probably in any given case the lungs were first affected and subsequently the larynx.

VI. Some cases date from an acute illness of some sort, and it is specially common lately to have a history of the disease dating from an attack of influenza. Such may be the case, the influenza predisposing to the tuberculous infection, but it must ever be remembered that patients are apt to fix on some marked deviation from their normal condition as the starting point of their trouble, when really it had been going on before, or did not begin until after the intercurrent trouble had ended. Thus one finds cases of cancer, for example, dating also from influenza.

VII. A few cases of chronic tuberculosis begin as the acute pneumonic type and eventually drift into the condition under consideration.

Symptoms.—The early symptoms of chronic pulmonary tuberculosis have been already partially considered under the heading of modes of onset.

As the disease becomes established there are three symptoms which usually stand out with more or less prominence and which, when all present, almost render the diagnosis a certainty. These are emaciation, sweating at night, and hæmoptysis. While these symptoms are present to a marked extent when the disease is fully developed, they may often also be found very early in the disease, as already mentioned above, and thus help towards its recognition when this is most important.

Emaciation is a very constant feature and the rapidity with which it

occurs is one of the very best tests of the acuteness of the morbid process. Hence a good weighing-machine should be in every physician's consulting room. The weight of the patient, taken in conjunction with his temperature will furnish more valuable information of how he is doing than any physical examination can do. Occasionally, however, the patient gains weight although the disease is progressing and in such cases it will be found that he has been recently put in better hygienic and dietetic surroundings. For example, an over-worked, badly-fed individual, who has been steadily emaciating, is sent to a sanitarium or into the country where he has nothing to do but rest, live in the fresh air and satisfy the better appetite thus engendered. Under such circumstances he may for a time steal a march, so to speak, upon the disease, and the gain in his general condition will be out of proportion to the improvement in the local process. One sees even cases of malignant disease improve temporarily, and put on flesh, when put amidst better surroundings. Only then it is a mere "flash in the pan," whilst in tuberculosis it is certainly a step upwards, although not such a great one as if a similar gain in weight had occurred without any alteration in the environment.

Towards the end of the case the emaciation may be so extreme that the sufferer becomes a mere living skeleton and is apt to develop bed sores.

As already mentioned, *haemoptysis* is a very frequent early symptom. At that stage it is usually slight, although quite a severe bleeding may occur as the first symptom noted. There frequently exists a great unwillingness on the part of patients to admit the existence of this symptom. To the question "Do you spit blood?" a negative answer is often forthcoming, and yet when the question be urged "Not even a streak occasionally?" an unwilling admission is made. For diagnostic purposes such streaks are perhaps just as important as more profuse hemorrhages and hence in suspicious cases it is well not to be satisfied with a simple negative. If profuse, the blood is red and more or less frothy at first, and for several days afterwards a little dark blood may be coughed up. The blood may be swallowed and later on vomited or passed as "tarry stools." In a case where doubt exists as to whether the vomited blood be due to true haematemesis or has been swallowed, the fact that for some time afterwards the patient coughs up a little blood will settle the diagnosis in favor of a pulmonary origin.

Hemorrhages from the lungs are usually self-limiting and only about three per cent. of deaths from pulmonary tuberculosis occur from this cause. Occasionally they may be very quickly fatal, as in one where the writer saw the patient simply drown in his own blood in a few seconds.

After every hemorrhage of any size the temperature rises for a few days.

Night Sweats are a very constant symptom in chronic pulmonary tuberculosis. They are especially severe late in the disease, but often occur quite early. When profuse, they weaken the patient and hence do harm, although, no doubt, their object is the elimination of toxins. The patient is feverish in the evening and on going to bed. A few hours later he wakes up drenched, and usually feeling chilly and depressed and his temperature will be found to have fallen several degrees and may even be very sub-normal.

Sweating at night is met with in many other diseases besides tuberculosis, *e.g.*, in typhoid fever and in suppuration of any kind, and it is only when it is associated with other symptoms of tuberculosis that it is at all diagnostic. Some authorities hold that when it occurs in pulmonary tuberculosis to any extent it is a sign of a mixed infection, but others differ, and Dr. Kingston Fowler points out that in miliary tuberculosis and tuberculous peritonitis, where there is every reason for thinking that the infection is a pure one, night sweats are a marked symptom. The condition is an evidence of certain toxins in the blood, which the system is endeavoring to get rid of, and there is no theoretical reason why the toxins of pure tuberculosis should not be thus dealt with.

Such sweating is apt to set up skin troubles, especially *miliaria rubra* and *alba*, and it favors the occurrence of the parasitic condition, *pityriasis versicolor*.

Cough is usually present from first to last and frequently is, for long, the most urgent symptom complained of. In very rare cases it may be absent, even when the disease has made considerable strides, and a case of this kind recently came under the notice of the writer, where, along with marked involvement of the lungs, no cough existed during the several weeks that the patient was in the hospital, and she insisted that it had never been present. It is at first dry and hacking, and often specially troublesome during the night. As soon as the expectoration becomes profuse the cough is especially bad, and almost limited sometimes, to the early morning hours. The patient will cough and cough until he succeeds in bring up a quantity of sputum, and when he has done so, sometimes with the aid of vomiting, then he is comparatively comfortable for hours. This morning cough is also frequent in chronic bronchitis with emphysema. The cough undoubtedly serves a useful purpose in removing expectoration and hence should not be too freely checked by treatment. Very often, however, it is useless, being due to irritation which cannot be got rid of, and then it does no good, in fact is harmful in

that it fatigues and strains the patient, much as does tenesmus in rectal ulceration or strangury in vesical catarrh.

Expectoration.—At first there is none, or at any rate it is scanty and chiefly confined to the early morning. Frequently as already mentioned, it contains blood. Later on it becomes profuse, muco-purulent, and often nummular. When very profuse the patient may think that he vomits it, which may actually be the case when he has been swallowing it during sleep, but usually it is merely helped up during vomiting by the simultaneous contraction of the bronchi. Young children swallow their sputum and hence it cannot be obtained by examination.

The presence of tubercle bacilli in the sputum is an absolute proof that tuberculous disease exists somewhere in the respiratory tract. It cannot be too strongly emphasized however that, while a positive finding is conclusive, a negative one is of little value in proving the non-existence of the disease. In a doubtful case many examinations should be made on several occasions. The best parts of the sputum to examine are the centres of the purulent masses and the little dark clots of blood that succeed a hemorrhage.

We are not concerned here with the technique of the examination.

The presence of elastic tissue in the sputum shows that destruction of lung structure is taking place and such destruction is usually tuberculous. "If some of the thick purulent material is placed upon a glass plate about four inches square and compressed into a thin layer by a second glass plate about three inches square, the elastic tissue on a black background appears to the naked eye as greyish-yellow spots. The fragment may then be removed, placed upon a microscopic slide and further examined (Andrew Clarke)."

The number of bacilli found bears little relation to the severity of the disease, except in a most general way.

There is usually more *shortness of breath*, which may become a marked feature of the disease later on. When urgent dyspnoea exists and the physical signs do not seem sufficient to account for it, then a secondary invasion of the lungs by acute miliary tuberculosis may be suspected, and this is specially the case if at the same time the fever become high and continuous.

A certain degree of *fever* is usually present during most of the course of the disease and it is a good gauge, especially when taken in conjunction with the weight of the patient, of the rapidity of the local process. Some authorities believe that a persistently subnormal temperature is suggestive of tuberculosis in an early stage, but the question naturally

arises whether or not such a depression of the bodily heat be not merely a sign of lowered vitality, which would predispose to tuberculosis as to any other infection. In the writer's experience, subnormal temperatures are much more common in healthy people (especially men) than is generally supposed.

When tuberculosis has really set in, the temperature is usually somewhat raised in the evening. In chronic tuberculosis it will usually be normal or subnormal in the morning, and if taken after a profuse sweat it may be as low as 95.0° Fahr. Cases are sometimes reported where no fever is said to have existed during any time up to death, but if the temperature be taken regularly every four hours these apparently fever-free cases will be found to be very rare indeed. When the night sweats are marked the fever assumes the hectic type—high at night and low in the morning—and this is the form of pyrexia which some associate with a mixed infection. If the temperature of a case of chronic tuberculosis begin to run high and cease to intermit, then probably an acute miliary infection has become superadded. The inverse type of fever is occasionally met with, in which the rise is in the morning and the fall at night and it is almost pathognomonic of tubercle.

As regards the *circulatory symptoms*; the pulse is hastened usually out of proportion to the fever, and in some cases of grave general depression from tuberculosis a fast pulse is found associated with an absence of fever. There is nearly always some poverty of blood, which is of the nature of a chlor-anæmia. The leucocytes are increased in number, especially late in the disease. Functional bruits are often present in the heart and blood vessels, the two most common being a systolic pulmonary murmur and the bruit de diable in the great veins of the neck. In many cases, however, where the weakness is considerable, and we would theoretically expect to find such murmurs well developed, they are conspicuous by their absence.

Oedema of the ankles occurs sometimes and is a symptom of grave import in tuberculosis.

The appetite is frequently capricious and the digestion poor, and, as the hope of keeping up and improving the patient's condition depends almost entirely on the amount of nourishment which he can eat and digest, the integrity of these should be preserved with the greatest care. Hence, remedies, which are likely to disturb the digestion, should be as far as possible avoided.

As regards the bowels, constipation is perhaps the rule, but an obstinate diarrhœa is not uncommon, and means, probably, tuberculous involvement of the bowels, or else waxy disease of the same from the

prolonged suppuration in the lungs. *Fistula in ano* is a not uncommon complication of the disease; in fact, where this local condition is found, it is well to carefully examine the lungs.

The mental states of the chronic tuberculous are various. At first the patient is often depressed, but later on a remarkable hopefulness remains with him, when it has long departed from his friends. Occasionally insanity and tuberculosis are closely associated, but the percentage of tuberculous people who become insane does not appear to be above the average.

The patient is often a great sufferer from pain. This may be merely neuralgic or he may develop neuritis with paralysis of various muscles. He usually has pains from time to time in the chest, generally due to pleurisy.

Various symptoms may arise during the course of chronic pulmonary tuberculosis, which are due to complications rather than to the disease itself and hence they are not here considered. But we may mention loss of voice from laryngeal invasion; severe diarrhoea, often with blood in the stools, due to tuberculous ulceration of the intestines; headache, squint, cervical rigidity, etc., from meningeal involvement; and sudden pain in the chest and profound dyspnoea when pneumothorax has occurred.

PHYSICAL SIGNS OF CHRONIC PULMONARY TUBERCULOSIS.

A careful examination of the chest should be made in every case where the least suspicion of local disease exists. In the later stages of the disease the most cursory examination will probably reveal evidence of the local condition, but by this time the patient's general symptoms are probably so marked that the local examination only proves what is already known.

It is *early* in the disease that careful examination is so necessary and then we only expect to find very slight deviations from the normal; hence it is that the examination should be conducted in the most advantageous surroundings possible. The hurried and very partial examination so often made in a noisy out-patient room is not likely to yield results of great value. Such incomplete investigation is often all that can be achieved, but whenever possible it should be done in a perfectly quiet room with the chest completely exposed and in a good light. A Talmudic law made several hundred years before Christ laid down that "a Levite practicing as a physician must not pursue his investigations at early dawn, nor in the evening twilight, nor even in a chamber on a

cloudy day " (Baas' "History of Medicine") and it teaches a lesson in the value of inspection which is of equal importance to-day.

For the better describing of the physical signs of chronic pulmonary tuberculosis, the disease may be divided, as is done by Professor John Wylie of Edinburgh, into four stages, as follows :—

First stage.—Where there are a few scattered tubercles in the lung.

Second stage.—Where the lung has become more or less consolidated by the growth and increase in the number of the tuberculous deposits and the consolidation of the lung tissue between them from pneumonia.

Third stage.—Where the tubercles are breaking down.

Fourth stage.—Where cavities of recognisable size have become formed.

When one bears in mind the morbid anatomy of the disease, he will realize that none but the first stage will be likely to exist alone in the chest, as later on there will be found a combination of cavities, consolidation and probably isolated tubercles at different parts of the lungs at the same time. Thus the second stage, roughly speaking, gives the signs of the first *plus* those of itself; the third gives its own *plus* those of the two preceding ones, etc. Further, it must be borne in mind that a patient is not necessarily in a more hopeless state because he is at a later stage of the disease, and as a matter of fact many people with large cavities are better "lives" than those who show only signs of scattered tubercles. The disease may become arrested at any stage.

Although tuberculosis may occur in the most perfectly formed chest, it is more likely to attack those of certain abnormal shapes. Hence such abnormalities may be said to predispose to the disease. A long chest, in which the ribs are further apart than usual and the costal angle is small, is frequently attacked. In such chests the scapulae usually project and hence the name "alar chest." The chest may be of the flat type, where the antero-posterior diameter is small. Chests deformed by previous disease, especially rachitis and less often whooping cough, are prone to this disease. Such are the "pigeon breast" chest and the one showing a transverse grooving in its lower part.

First stage.—At this period of the disease, when only a few shot-like tubercles are scattered through the affected part of the lung with more or less normal tissue between them, the chief and perhaps only physical signs elicited will be got by auscultation.

There is nothing as yet to prevent normal movement of the chest, nothing to alter the chest resonance (unless indeed, as is often the case, an early pleurisy has left some thickening over the lung). On auscultation the breathing is probably harsh vesicular over the affected apex and

the expiration will be prolonged. This is the most common type, but occasionally, owing to the thickening of the pleura or plugging of bronchi, the respiration may be quieter than normal. Occasionally it is interrupted ("cog-wheel breathing"), but such is of very common occurrence in nervous people and is only of significance when localized. It should ever be remembered that the respiration is normally somewhat louder and the expiration more prolonged over the right apex than elsewhere; also that over the roots of the lungs it is louder and broncho-vesicular. (The bronchi in the roots of the lungs lie opposite the juncture of the manubrium sterni with the body of the sternum in front and opposite the fourth dorsal spine behind.) The vocal resonance will not be altered. As regards accompaniments, a few dry râles may be heard usually, often only brought out by the inspiration following the full expiration produced by coughing or laughing. Various pitched rhonchi are frequent. The apices, above and especially below the clavicles and above the scapulæ, should be systematically searched with the stethoscope, as also the axilla as high as possible. A spot, which may show signs of early infection, although generally secondary to that of the apex, is the upper part of the lower lobe. The patient should be caused to place his hand on the opposite shoulder and then this part of the lung lies between the vertebral border of the scapula and the spinal column.

The upper parts of the lungs are nearly always the parts first affected with tuberculosis and one should be very chary of diagnosing primary basal disease. Such does occur however in rare cases, usually in the aged or feeble, or as a sequence to pneumonia.

Thus, the signs elicited by examination of the chest in the first stage of the disease, are practically those of mild bronchitis; but the great point to note is that the bronchitis is *localized* to the apex, while in simple bronchial catarrh the signs are generalised over the whole chest, but especially at the bases of the lungs.

Very frequently the disease becomes arrested in the first stage. This is specially likely to occur under appropriate treatment and hence the enormous importance of the early recognition of the condition.

2nd Stage.—As the process of consolidation proceeds in the lung, the signs of the second stage gradually appear. Just how much consolidation of the lung is necessary, in order to make itself evident by physical signs, it is impossible to say; but it is quite certain that the more delicate and thorough our examination be, the sooner will the condition be discovered.

On *inspection* some want of movement may be made out over the affected apex and there may be a little flattening here, although such is not common at so early a stage. The physician will best detect either of

these abnormalities by standing behind the patient, (who is seated facing the light) and, placing his thumbs on the vertebral column, spread his fingers over the upper part of the chest, anteriorly. Thus the sense of touch as well as that of sight comes to his aid. The two sides should move equally and synchronously and when there is an abnormality it is always in the direction of lessening and delay of movement.

Palpation may reveal some increase in vocal fremitus, due to the fact that the consolidated lung conducts the vibrations of the voice more easily than does the normal organ. It must be remembered, however, that the fremitus is normally greater over the right apex than elsewhere and it is necessary to make allowance for this, which the trained hand soon learns to do.

On *percussion*, more or less want of re-onance will be present over the affected area, but this seldom or never amounts to the degree of dullness given by a lobar pneumonia. There is very little sense of resistance to the finger. It has been stated ("Text Book of Medicine," G. A. Gibson, Vol. I, p. 415) that often, normally, there is less resonance over the right apex than over the left, but the writer is unable to agree with this and believes that in health the two should give the same note, and this is the more generally held belief. Each point of the chest should be systematically compared with the same one on the opposite side; and it helps the ear to always percuss the apparently normal side first. Above, on, and below the clavicle in front and above the scapula behind are the chief spots to examine.

Frequently, more want of resonance exists than might have been expected and this, when combined with lessened breathing and perhaps deficient movement, points to the very common condition of thickened pleura, or, if very marked, to localised effusion, which is fairly common in children.

On *auscultation* over the diseased apex, the breathing is loud, with prolonged expiration and has taken on more or less of a bronchial element. It seldom or never becomes purely bronchial as in pneumonia. The vocal resonance is increased and here again it must be noted that this is normally greater at the right than at the other apex. Frequently some degree of bronchophony exists. The accompaniments of the first stage, *i. e.*, rhonchi from associated local bronchitis and fine crepitations may still be present. The heart sounds are usually heard over the consolidated lung with greater ease than over the normal one.

Roughly speaking, then, the signs of the second stage of the disease are those of an ill-developed and very localised apical pneumonia.

3rd Stage.—Here we have breaking down of the tuberculous deposits. This stage may follow upon the second one, or may directly arise out of

the first ; in other words, signs of breaking down may not appear until those of consolidation have become evident, or else they may make themselves apparent before these occur.

This breaking down of tubercles produces the one sign, which, when added to those of the first or second stage, is characteristic of the third. This sign is the occurrence of crepitations of medium fineness. These occur over the affected area chiefly in inspiration and the fluid which produces them is *pus*. They may be numerous or only present as occasional "clicks." These crepitations are similar in sound to those heard over a resolving pneumonia, but are very seldom so numerous as under such circumstances. They are also heard in bronchitis, but are then generalised and chiefly audible at the bases. Moreover, in bronchitis the crepitations are rather of a bubbling than of a crackling nature, being less sharp in quality than in softening tubercles.

When a hemorrhage has occurred, the blood, lying free in the bronchi and vesicles of the lobe, produces crepitations of a bubbling nature, which usually persist for several days.

4th Stage.—Here the softening and ulceration of the tuberculous consolidation have produced cavities sufficient in size to be detected by physical examination.

While the diagnosis of the existence of a cavity is often an easy matter, this is not always the case, even when the cavity be of considerable size.

On *inspection* probably some flattening will be noticed over the affected apex. The clavicle, being part of the shoulder girdle, does not share in the sinking of the thoracic wall, and hence stands out with greater prominence than usual as the chest recedes. There is want of movement over this part of the chest, the wall being tied down by the fibrous lung. Frequently the superficial veins over the upper part of the side stand out with unusual distinctness. If the left side be the affected one, although indeed both lungs have usually been attacked by this time, then the shrinkage of the lung may expose the heart and pulmonary artery, and hence abnormal pulsation will be seen in the 2nd and 3rd left interspaces.

Palpation confirms the results of inspection and usually yields marked increase in vocal fremitus.

On *percussion*, there will be detected some degree of want of resonance, which will vary with the size of the cavity and its nearness to the surface, the amount of thickening of the walls, and the presence or absence of emphysema in the surrounding lung tissue. As a rule the note is "boxy" and gives the impression of striking a cavity with thick

walls. If the cavity be large and have thin walls, then the cracked-pot sound (*bruit de pot fêlé*) may be present and is obtained when firm percussion is used whilst the patient keeps his mouth open. A similar sound may often be got in healthy children, but then it may be obtained all over the chest, and there are no other signs of disease. Usually at a little distance from the diseased area the note is hyper-resonant from emphysema.

On auscultation the breathing is usually louder than normal and of bronchial type, the pitch varying with the size of the cavity; the smaller the cavity the higher the pitch. When there exists a large cavity, with probably a large bronchus opening into it, the bronchial breathing may be so low-pitched as to deserve the name of "cavernous," or it may become amphoric which is suggestive of a very large cavity and is best heard in pneumothorax, when there is a considerable opening through the lung into a bronchus.

The vocal resonance will be increased and often altered, giving the condition of bronchophony, where the voice sounds near to the stethoscope; or of pectoriloquy, where it sounds as if spoken right into the ear and the articulation of the voice is audible.

The accompaniments depend upon the contents of the cavity. They may hence be scarce or even absent, or on the other hand numerous. They consist of bubbling, splashing or gurgling and often have a tinkling character, suggestive of their production in a resonating chamber. Coughing brings them out well.

Over the rest of the chest signs of emphysema are very common. As already mentioned, usually by the time that the disease has reached the stage of cavity formation at its primary site, it has also attacked other parts of the lungs and in these parts the signs of the earlier stages will probably be evident.

In concluding these remarks on physical examination, the writer would endorse two rules laid down by Dr. John Cockle in 1854 in his translator's note of the work of Weber, as follows: (1) Never to infer the non-existence of disease from inability to detect its physical signs; (2) Where it is possible, always test the physical by the vital signs.

BOVINE TUBERCULOSIS AND PROTECTION OF MILK SUPPLIES.

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THE importance of any phase of investigation regarding the subject of Tuberculosis and its relation to milk is unquestioned in these latter days when the general public is beginning to appreciate, for the first time, the magnitude of the problem that confronts them in attempting to lessen the ravages of the "great white scourge" of the human race.

In considering this subject, it may be approached from two points of view :

1. From the standpoint of animal industry.
2. From that of public health.

BOVINE TUBERCULOSIS AND ANIMAL INDUSTRY.

The rapid extension of the disease among cattle within the last few decades has forced upon breeders and dairymen the necessity of considering this subject whether they desire it or not. It is customary in many quarters, even yet, to decry all consideration of this matter as unnecessary, inexpedient, and harmful to the dairy interests. But, as is too frequently the case, the motive for such action rests upon a financial foundation, and many breeders are averse to a calm, judicious discussion of the matter, simply because it may mean financial loss to them.

Since the introduction of the tuberculin test as an aid in the diagnosis of the disease in cattle, it has been positively determined that the malady, at least in its incipient form, is very much wider spread than was formerly supposed, but it by no means follows that all animals that react to the tuberculin test are actually in a condition in which they or their products are dangerous to man and beast.

The slow, insidious nature of the disease that characterizes it in the human is also to be found in cattle, and not infrequently an animal may be infected with the seeds of disease for a considerable time—even a year or so—without showing in any degree physical symptoms that are manifest to even the animal expert. Such animals are not diseased, in the ordinary meaning of the term, *i. e.*, they are not capable of transmitting the disease, either directly or indirectly, through their milk supply or meat. The affection in such cases is latent, generally confined to various lymphatic glands, but animals so affected are, however, potentially dangerous, for the latency of the disease may be overcome through the operation of various factors, and the chronic type may be awakened into

an acute phase. It is in this way that the disease spreads slowly and unperceived through a herd. Before it has made such inroads as to cause actual death of any considerable number of animals, many more have acquired the trouble, at least in its earlier phases. Necessity of controlling its spread and eradicating it is evident for the sake of the herd itself, if from no other point of view. Successful animal industry, especially with cattle, requires that herds shall be kept free from all taint of this disease.

BOVINE TUBERCULOSIS AND PUBLIC HEALTH.

But the other phase of the question, viz., the relation of bovine tuberculosis to public health, is undoubtedly of more interest to an audience of medical men than a consideration of the question from the view point of the breeder and stock-raiser.

The fact that both the human and bovine types of this disease have been shown to be causally related to the tubercle bacillus might, on the face of the matter, be taken to indicate that they were produced by the same identical organism, and yet every bacteriologist recognizes that while the causative organisms found in this disease in man and animals show many common characteristics, there are also to be noted differential characters that serve to indicate that the respective organisms belong at least to different types or varieties rather than the same identical form, as in the case of anthrax in man and animals.

Interest in the particular phase of the very practical question as to the transmissibility of the bovine type of the tubercle bacillus to the human, and *vice versa*, has been very recently awakened. Certainly, the practical importance of this problem is such as to demand most careful scrutiny. If there is any danger of transmissibility, it is needless to emphasize its importance to public health interests. On the other hand, if no such danger does exist, it certainly works a hardship on animal industry to expend so much time and energy on precautionary measures that have for their aim the elimination, or at least the diminution, of the reputed danger to the narrowest possible limits.

But, if the question of bovine tuberculosis is considered merely from the view point of animal husbandry, restrictive regulations are still necessary; and if these must be maintained, it would seem the part of a sound public health policy to also continue the enforcement of such restrictive measures as are designed to safeguard human life, until it can be shown beyond all doubt that such measures are needlessly severe.

One fact should be borne in mind and that is, that the virulence of the bovine type is much greater than the human variety of the organism.

The conclusive researches of Theobald Smith and others in this country as well as a number of European investigators indicate that the susceptibility of cattle to inoculation with tuberculous human sputum is relatively slight in comparison with similar inoculations with material of bovine origin. This in itself would indicate that the danger of cattle acquiring the disease from human sources would be so slight as to be practically negligible. Furthermore, comparative experiments made on various animals in which both types of bacilli were employed show uniformly that the bovine type is much more virulent than the human.

Pending the accumulation of sufficient observations relating to accidental infection to prove conclusively what could be quickly demonstrated beyond cavil if it were possible to study this subject experimentally, it seems fair to consider that the danger of infection from the bovine to the human would be greater than it would be from the human to the bovine. It will take some years at the best to collect the data that from the very nature of the case must be derived largely from observations, before we will be in a condition to consider the evidence as conclusive either one way or the other.

In the meantime, it is desirable that restrictive measures should be maintained with sufficient rigor to ensure freedom from all possible danger, even though such measures may be found in the future to be too onerous. One might with equal propriety decry periods of quarantine that were enforced with rigidity during the middle ages but which are now known to have been unnecessarily severe. At the present time, when our knowledge relating to the ways in which contagia are disseminated is much more complete, it is true that such rigid, lengthy quarantine and complete isolation measures are not necessary; but in cases, even yet where exact data are lacking, it is a correct principle for public health officials to insist upon such measures as are known to safeguard public health interests, even though it may become necessary to modify them subsequently as the actual conditions become more completely known.

These restrictive measures relating to the prevention of the possible transmission of tuberculosis from the bovine to human should, however, not be unnecessarily severe, and must, of necessity, be revised frequently as knowledge becomes more accurate.

POSSIBLE DANGER FROM TUBERCULOUS CATTLE.

The main sources that may serve directly in the dissemination of tubercle bacilli from animal to man are the meat and milk. It is true that indirectly the possibility exists of inhaling tubercle organisms of bovine origin as these are thrown out from the respiratory passages of animals. Not only may they be ejected forcibly, as in the act of cough-

ing, but in a dried form they exist in the barn on surfaces with which the animal has come in contact. Not infrequently does this indirect method of transmission serve to introduce the disease into a perfectly healthy herd, if the same is brought into infected quarters, in a manner entirely comparable to that which exists in the tenement districts of the cities, where certain houses become so saturated with the virus of the disease that it is practically endemic.

INFECTION FROM MEAT.

The first direct source of infection referred to, viz., the use of tuberculous meat is fraught with much less danger than that which arises from the use of milk. In the first place, the fact that meat is almost always consumed in a cooked condition diminishes the danger in great measure as ordinary cooking destroys the vitality of the organism. Again, it is also to be noted that by far the larger proportion of animals are adjudged tubercular, on the basis of the tuberculin test, are affected to such a slight extent that the muscular parts used as food do not contain the seeds of the disease. Generally speaking, tuberculosis is a disease of the visceral organs and serous surfaces. Normally it is not disseminated in the body by means of the vascular circulation, and consequently, in the earlier phases in any event, the muscular parts are not invaded. With generalized and advanced stages this condition may differ, so that it becomes possible to transmit the disease by ingestion of meat.

To condemn and destroy all such flesh simply because of a positive tuberculin reaction is to follow a course needlessly severe and expensive. Much of such meat is just as good as any that could be purchased.

In actinomycosis it is no longer considered necessary to sacrifice the entire animal, if the disease affects the jaw or some portion of the head. Such should be the case with animals in good condition that react to the tuberculin test where post mortem examination reveals a localized state of disease. It naturally follows that such a course ought only to be permitted under strict veterinary inspection. This method of disposal is practiced in various European countries, and if as large a percent of our stock was affected as is found in some of these countries, some such measures would of necessity be adopted.

INFECTION FROM MILK

With reference to the danger from milk the conditions are far different. This food is so generally consumed in a raw state that if tubercle bacilli are present, the opportunity for intestinal infection is much greater.

The relative susceptibility of the intestinal tract, especially with children is a question of magnitude in this connection, but here hospital

statistics afford the only answer that can be given, and unfortunately there is considerable difference of opinion in interpreting these. I shall therefore leave this question open and consider next the question as to how frequently the tubercle bacilli are to be found in market milk. It is unfortunate that American data are so meagre on this point. The work of Ernst, Rabinowitsch, and others has shown that the organism is to be found under our conditions, but it is impossible for us to apply the data gathered abroad, especially in Germany, for the reason that bovine tuberculosis is a very much wider spread disease in these countries than in our own. It would therefore be manifestly unfair to compare conditions in Denmark or portions of Germany, where from 25 to 40 percent of cattle are found to react to the test, with regions here that do not contain at most more than a few percent (2 to 4).

It must be borne in mind that although an animal may react to the tuberculin test, yet she may deliver milk, even for a long time to come, that contains absolutely no trace of tubercle bacilli. The important question as to just when the milk of a reacting animal becomes infectious is not susceptible of exact answer. Unquestionably, if the udder itself is affected, the milk is almost sure to contain tubercle organisms, but this condition does not occur so that the organ becomes visibly affected except in a relatively small percent of cases. It more frequently happens, however, that less marked lesions may exist in the udder that would even escape close examination, and in such cases the tubercle bacillus is not infrequently found.

On the other hand, of the animals that react to the tuberculin test but show no physical symptoms of the disease, either generalized through the system or localized in the udder, the larger part of these do not contain the seeds of this disease. This fact has been determined as a result of experimental inoculation on laboratory animals, and has also been abundantly confirmed by tests upon young cattle and hogs.

There is ample evidence though that milk may possess infectious properties for animals and still be derived from cows that show no apparent symptoms of disease, but when one recalls that very frequently an animal may be in good flesh and apparently healthy and yet the disease have made extensive progress in the internal organs, becoming well generalized, it is not surprising that tubercle bacilli are to be found in the milk supply. We need, however, much additional data as to the prevalence of the tubercle organism in milk before the relative distribution of the germ can be at all accurately determined. In this work for accuracy animal experiments should take precedence over microscopic examination, for it is frequently possible to produce positive infections in guinea

pigs by intraperitoneal injections where the microscope fails to reveal the specific organism.

TUBERCLE BACILLI IN MILK PRODUCTS.

If tubercle bacilli are at all numerous in milk it follows of necessity that milk converted into cheese and butter must contain them. It seems quite improbable though that the danger from these products can approximate that of infected milk, for the reasons that a considerable number of the organisms must be eliminated in the process of manufacture and also that these food products are consumed in less quantities than milk, and therefore the amount of simultaneous infection must be reduced. The conclusions derived from earlier experimental evidence on the subject of tubercle bacilli in butter have been rendered less satisfactory of late years by the discovery of organisms in this food that simulate the morphology of the tubercle germ and to a less degree in some cases even the pathogenic properties of the organism. Just how much the data previously accepted are vitiated by these findings can only be known by a thorough retest of the question.

CONTROL OF TUBERCULOUS MILK.

But what shall be done with the products of animals reacting to the tuberculin test? While it can be readily demonstrated that a large proportion of animals responding to the test actually deliver tubercle-free milk, still the impossibility of telling just when an animal may pass from the harmless into the dangerous stage necessitates the proper treatment of all milk.

EXCLUSION OF TUBERCLE BACILLI BY MEANS OF TUBERCULIN TEST.

This question has been solved in two ways, either of which accomplish the desired end in a perfectly practical manner. These methods are exclusion and destruction. By applying the tuberculin test to a dairy herd—especially one that is concerned in the production of milk for direct consumption—and excluding all animals that react to the test, it is easily possible to avoid all semblance of danger. This course has much to recommend it, especially in milk supply herds, for not only does it insure a tubercle-free milk but it eliminates one of the greatest dangers to the continued well being of the herd, for experience shows that bovine tuberculosis is a more serious menace to dairy herds than beef herds, because usually they are more closely housed thereby increasing the danger of infection.

This method is very frequently followed in herds that produce extra fine milk where the enhanced keeping quality is secured in exercising

great care as to the milking conditions and to the manner in which the milk is subsequently handled. The bacteria associated with the ordinary fermentations of milk, such as souring, can be practically eliminated by keeping out all dust and dirt, invisible as well as the visible filth, but these methods of cleanliness have no effect on the bacteria derived directly from the cow. It therefore becomes necessary to rely on veterinary inspection to eliminate the animals unfit for milk production, and with reference to tuberculosis, the tuberculin test enables this to be done much more accurately than physical examination.

DESTRUCTION OF TUBERCLE BACILLI BY HEAT.

The remaining method of treatment is to destroy any possible tubercle organisms (as well as any other pathogenic forms) by heat. The two methods of applying heat that have been the most successful are known respectively, as pasteurization and sterilization, the essential difference in these two processes, as doubtless all of you know, being that the pasteurizing treatment aims to kill only the vegetative, growing bacteria, while the sterilizing process approximately and some time exceeds the boiling point, thus destroying most of the spore-bearing forms. As a rule, over 99 per cent. of the organisms contained in milk are in a growing vegetative condition. Therefore, so far as keeping quality is concerned, the pasteurizing method is almost as good as the more stringent treatment.

I need not enter into the relative merits of these two processes, for the preparation of milk for infants or invalids. The standpoint that we are considering is that of the general consumer and from this point of view, the first method is more applicable. It is cheaper, more easily performed, changes the normal characteristics of the milk to a less degree, and so far as destroying pathogenic bacteria, is fully as satisfactory when properly done. It is true pasteurized milk will not keep as long as sterilized, but this is of little consequence to the general user, for if the milk keeps perfectly sweet for even 24 hours longer than is usually the case with raw milk, it is sufficient to meet his needs.

With reference to the conditions in pasteurizing that are necessary to destroy the tubercle bacillus, our knowledge is much more exact at the present time than it was two years ago. Until very recently it has generally been considered that the tubercle bacillus ought to be taken as the standard test organism in pasteurizing, because this organism was considered the most resistant of any pathogenic germ that was likely to be found in milk.

THERMAL DEATH POINT OF TUBERCLE BACILLUS.

De Man working in Forster's laboratory formulated a scale as to the

time required to destroy this organism at varying temperatures. His standard was as follows:

55 degrees C.	.....	4 hours.
60 " "	.....	1 "
65 " "	.....	15 minutes.
70 " "	.....	10 "
80 " "	.....	5 "
90 " "	.....	2 "
95 " "	.....	1 "

Inasmuch as in pasteurized milk it is desirable to avoid the cooked flavor which appears when milk is heated to 70 degrees C. or above, the standard gradually adopted for pasteurizing was the requisite time to kill the tubercle bacillus at temperatures slightly below this point.

The more thorough work of Smith within the last two years has shown that the tubercle bacillus is not endowed with greater powers of resistance than that possessed by many other organisms. His experiments carried out under laboratory conditions at 60 degrees C. (140 degrees F.) showed that this species was totally destroyed in 15 minutes at this temperature. The great majority of the bacteria were killed in 5 or 10 minutes. This result was obtained whether he exposed the culture of tubercle in distilled water, dilute salt solution (0.6%), bouillon, and under certain conditions in milk. Where the exposure was made in sealed tubes in milk, the thermal death point was no higher than with other media; where the medium was exposed to the air, the organisms were not killed, the protection in this case being associated, as he thought, with the scalded layer that forms on the surface of milk when this liquid is heated.

The practical significance of these investigations led us to retest these experiments, under commercial rather than laboratory conditions. This was done by pasteurizing milk infected with tubercle cultures in a closed rotating commercial pasteurizer. Guinea pigs were used to test the vitality of the heated bacteria, intraperitoneal injections being made in each case. The quantity of tubercle organisms thus inoculated was much greater than would ordinarily be found in even a badly infected, naturally tuberculous milk. The results of these tests confirmed the data presented by Smith, and showed that a ten minute exposure at 60 degrees C. was sufficient to destroy the vitality of the tubercle organism so thoroughly that no trace of disease developed in any case. Where the milk was heated for five minutes disease was produced, although even in these cases, the course of the same was much less rapid than in the control pigs

which were inoculated with unheated milk and which died invariably within 13 to 19 days.

RELATION OF THERMAL DEATH POINT TO "SCALDED LAYER" ON MILK.

These experiments were still further continued in order to test the thermal death point in milk pasteurized in an open vessel in a quiescent state with that treated in a commercial pasteurizer. In domestic pasteurization, milk is frequently heated in vessels where its surface is exposed to the air. Under these conditions the surface pellicle forms readily. When such milk was infected with tubercle bacilli and pasteurized at 60 degrees C., the contained bacteria in the milk exposed in the closed commercial pasteurizer were always killed in a ten minute exposure, while that exposed in a quiescent condition in open bottles was not destroyed in a considerably longer period of time. The exact limit was not determined in these cases, but in an exposure for fifteen minutes the vitality of the contained organisms was not impaired. In Smith's experiments the organism retained its vitality heated in cotton stoppered tubes in one case for an hour.

To determine with certainty whether this increased resistance in open vessels was due to the surface pellicle or not, further experiments have been made this season. These have not yet been reported in full but the results obtained are briefly as follows.

Samples of milk were inoculated with a peculiarly resistant coccus form that we have found in milk that has a normal thermal death point at 75 degrees C. (practically 15 to 18 degrees C. higher than possessed by ordinary bacteria). Under these temperature conditions, the surface film forms very quickly. After an exposure of the milk for ten minutes at various temperatures varying from 70 to 85 degrees C., the surface pellicle was removed, and planted in an agar culture, care being taken to spread out the membrane as much as possible. Even where the temperature was raised to 82 degrees C., colonies of the inoculated organisms developed quite abundantly in the membrane while the milk exposed in sealed tubes became sterile when a temperature of 76 degrees C. was reached.

To show that this increased resistance was not due to a lower temperature at the surface, the experiment was made by removing the membrane a few minutes after it had formed and immersing the same in a bath of sterile water. In this medium the membrane sank quickly to the bottom and even under these conditions the organism tested lived longer in the submerged membrane than it did where the milk was heated in a closed vessel. This throws the explanation of the phenomenon.

back on to the nature of the membrane itself. This surface pellicle is made up largely of dried casein due to the fact that evaporation takes place at the surface faster than convection currents can occur in so viscous a liquid as milk, and the result is that the surface of the liquid dries out to some extent. Any bacteria, tubercle or otherwise, that are caught in this layer are thus artificially protected by being encapsuled in the more or less dried casein.

It is evident from these investigations that the conditions necessary for the destruction of the tubercle organism in milk are not simply to heat the milk to a certain temperature, but it is necessary to so protect the liquid as to prevent the formation of this surface film.

ADVANTAGES OF LOW TEMPERATURE PASTEURIZATION.

One great advantage arising from the pasteurization of milk at this relatively low temperature (60 degrees C.) is that the consistency of the liquid is not changed. The chief objection that has hitherto been urged against the more common use of pasteurized products in general milk supplies is that the action of the heat destroys the creaming power of the milk and so renders it apparently thinner in "body," due to the fact that the cream line does not form on the surface. It has been previously shown at the Wisconsin Experiment Station by Babcock and the writer that this diminished viscosity is due to the separation of the characteristic fat globule clusters found in normal milk, into the constituent isolated globules. This physical change occurs at about 60 degrees C., and therefore, if milk is heated at this temperature or below, even though the exposure be continued for a long period of time, the milk does not lose its creaming power. If then, it is possible to destroy the tubercle bacillus with certainty at this temperature where the physical condition of the milk is not changed, one may be assured that such milk is perfectly safe so far as pathogenic bacteria are concerned, and at the same time the only valid objection that has ever been urged against the use of pasteurized products is thereby removed. This method has now been in practical operation at the University of Wisconsin for two years and has been thoroughly tested under commercial conditions. The keeping quality of such milk is satisfactory, retaining its sweetness for several days where the product is kept with any ordinary degree of care. The introduction of this process into general milk supplies has been quite rapid during the past year, and there are now quite a number of plants in the larger cities in the States that pasteurize a very considerable proportion of their output under these conditions.

THE HOME TREATMENT OF PULMONARY TUBERCULOSIS.

By ALEXANDER MCPHEDRAN, M.B.,

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PROBABLY less than 5 per cent. of the persons affected with tuberculosis are able to seek the advantages of the climates most suitable for their conditions. The question of treatment in this climate becomes, then, one of the utmost practical importance. The feeling is very prevalent, not to say universal, that the only hope of recovery from tuberculosis lies in the affected persons seeking a mild climate, and this view is general even among physicians. The laity, with few exceptions, regard the air of such a climate as possessing a special curative quality by which the disease is arrested, and in due time, cured. They associate with this far-away climate much the same mystic power that they do with medicines and medical resources in general—a kind of occult influence that will act as a specific on their special cases and restore them to health. It is difficult to convince most people that the air of Colorado or California is no better than the air of Ontario, and that the only advantage these climates have over our own is in their dryness and warmth, especially the former, by which an out-of-door life is rendered more comfortable. Both in the case of those who are able to seek the milder climate, as well as of those whose ties or means prevent them leaving home, it seems most desirable to disabuse their minds of such erroneous ideas, and give them as clear as possible an understanding of the conditions that render one climate more favorable than another. Such a knowledge will prevent those who go to these climates from anticipating magic effects from them, and in many cases save them much disappointment, while those who remain at home will be more easily led to make the best of the home climate, which, after all, does not fall very far behind the best. It should be made quite clear that the chief benefit to be derived from a mild climate is in the facility it affords for living a comfortable out-of-door life, because the more clear people are of what constitutes a good climate, and how it exercises its beneficent influence, the more intelligently will they endeavor to make the most of this less favorable climate. There is now abundant evidence that tuberculosis can be successfully treated in any temperate climate. The rapid lowering of mortality in all the countries of northern Europe, as well as in America, offers the most convincing proof of the truth of this statement, as does also our own experience.

It is also important to note that in recent years experience has shown that practical and permanent success in the treatment of tuber-

culosis is best attained in the climate in which the patient must afterwards carry on his daily work. This is of special importance to that great body of sufferers who are unable even temporarily to resort to other climates.

Tuberculosis is avoidable and curable. To the knowledge that the disease is contagious is primarily due the diminution of tuberculosis in all civilized countries, because it has led to greater care not only of the sick but also of the well.

That the disease is contagious has been recognized only within the last two decades, but that it is curable was known to the ancients. Hippocrates wrote that "phthisis if treated early enough gets well." His wisdom seems to have been equalled only by his modesty, because he appears to mean by the expression that the patient would get well if given a proper chance, not that he could cure it. It is the most curable of chronic diseases. This is a statement of great importance. In the first place the fact that tuberculosis is curable robs it of the hopelessness with which even to recent times it has been wont to be regarded, and affords encouragement to the patient in the persevering use of the means for its arrest and cure. In the second place it emphasizes the importance of an early recognition of the disease by the patient as well as by the physician, so that the means of cure may be adopted promptly. It has been too often the custom to keep the patient in ignorance of the true nature of his malady until it is far advanced and practically incurable. Too often he has been informed that his lungs are a little weak, or that he has a little local bronchitis or a little trouble in his lung, consequently he has not seen the necessity for persevering with treatment intelligently. Before it becomes the rule to give patients a clear, explicit statement of their condition, there will have to be a general appreciation of the hopefulness of the outlook if treatment is begun in the early stages. With early diagnosis and suitable treatment probably 80 per cent. of the cases will recover. The crux of the question is the early recognition of the disease; then in the light of this knowledge it should be treated seriously from the first. Suspected cases in whom a positive diagnosis can not be made should be treated as established cases until they can be proved well.

In determining the means to be adopted in combating this disease in this climate we should realize that an appreciation on the part of the physicians of the importance of an early diagnosis and a knowledge on the part of the public of the hopefulness of early treatment will do more than any other agencies towards the provision of the proper means for the care of tuberculous patients. Of these means properly equipped sanatoria afford of course the best provision for treatment under skilled

supervision. Unfortunately only a small percentage affected can be provided for in sanatoria, but their usefulness does not end with the patients actually received into them. In every patient received they remove a focus of contagion from the community—a matter of great importance, especially if the patient is removed from a crowded house with small rooms and poor sanitary condition. A further important function of the sanatorium is to furnish an example to the community of the provision that should be made for tuberculous persons in their own homes. This influence will be of much more importance than the caring for the few sufferers within its own walls. It is a matter worthy of those charged with the administration of such institutions whether means can be adopted to extend this beneficent influence. While they furnish the best general plan for caring for tuberculous persons they are nevertheless not ideal, or suited, as at present administered, to all persons in the early stages. Many such persons are, though infected, yet vigorous and able for active employment. To send such to a sanatorium to pass their time in idleness seems injudicious, as with the proper restrictions they would be the better of having occupation for mind and body. This suggests a question worthy of consideration by all concerned, including the promoters of sanatoria, whether these institutions should not have attached to them some facilities for profitable work, such as vegetable and fruit gardens, etc., in which sufficient might be produced to meet their own needs. Various handicrafts, as carpentering, brick-laying, or any open air occupation, might also be carried on; new buildings could thus be added to the institution. Such patients would in this way be afforded opportunity for earning at least part of the means necessary for their own maintenance. There are certainly many young men who need sanatorium care but are yet quite able to do such out-of-door work and are the better of such mental and physical employment. Such cases usually do well on ranches on the western plains. A still further benefit arising from occupation would be the tendency of patients to remain longer under care, and this is most desirable. Sanatoria might thus be made largely self-sustaining, especially those for the poorer classes. It would of course need increased capital to establish such sanatoria, but they would be maintained at less cost.

Next, the question of the utilization of general hospitals for the care of tuberculous patients is an important one. At present such patients are generally refused admission into these institutions as no provision is made to accommodate them properly. This is not as it should be because, at least for many years to come, there cannot be adequate sanatoria accommodation, and in the meantime many of these unfortunate

ones have no place in which to be cared for. With few, if any exceptions, the hospitals in this country should have one or more pavilions in which to receive tuberculous patients at least temporarily. In Germany these additions to hospitals are becoming general even where greatly increased sanatorium accommodation is being also provided. It would greatly benefit many cases to have treatment in a hospital for a time to improve their general health and fit them for the more vigorous out-of-door life of a sanatorium. Many such pavilions would be placed as favorably as any sanatorium in this country can be, and in all of them the conditions would be much more favorable than they are in homes from which persons in need of admittance come. Furthermore, these pavilions would bring before the public in almost every county of this province examples of the provision that should be made in the homes in which tuberculous patients are cared for. They should be built as plainly and inexpensively as is compatible with efficiency. They would also furnish the most economical provision for the care of these patients as they would be managed without extra administration expense. In them also cases could be received that are unsuitable for sanatorium treatment, cases that must be removed from the home if we would save the children of the household. Let the sanatorium accommodation be never so ample there will still be the most urgent need for hospital provision for tuberculous patients, and it is the unmistakable duty of our general hospitals to make that provision. Many cases could be received into such pavilions that could only remain away from home and work for a few weeks. It is true that little can be accomplished in the way of cure in that time, yet much would be accomplished in the way of education. Patients would be instructed in the proper methods of living as to fresh air, food, rest and as to care of sputum, to disinfection of rooms, etc. These methods they could apply to their own houses with infinite advantage to their families and to the community. The great decrease of tuberculosis in England—and it is greater than in any other country—is largely attributable to the large number of special hospitals.

But even with the fullest sanatorium and hospital accommodation possible the great majority of tuberculous patients will still have to be cared for in their homes. In the better class of homes fully as effective provision can usually be made as in any sanatorium. In recent years the addition of verandahs and balconies to houses has become much in vogue; a most laudable addition it is and should be widely encouraged as it tends to greatly increase the time spent by the family out of doors and this increases the desire for fresh air in the house. There are few houses to which a simple balcony or verandah cannot be easily built on which a

tuberculous inmate may spend much time. I have advised it under such circumstances for several years past. Another feature that should be encouraged in future house building is the provision of a hospital room for the time of need that is certain, sooner or later, to come to all households. In the plans special care should be taken that this room at least has ample ventilation and sunlight, with a balcony attached if possible. Such a room would have much influence on the rest of the house and be a silent monitor inculcating the need for fresh air.

Where there is suitable ground available simple temporary or permanent shelters should be constructed in which patients can sit or recline for some portion of the day sheltered from the wind or rain. A simple summer house will serve the purpose, or a shelter made of duck such as is used for awnings will afford ample protection in all but the most inclement weather. Such shelters are portable and can be shifted to the most desirable positions.

The Provincial Board of Health has a large and important duty to fulfill in the prophylaxis and home treatment of tuberculosis. On it devolves the responsibility of educating the people in the dangers of contagion, in the means necessary to prevent it and the sanitary precautions required to prevent the spread of the disease, as well as in its treatment when acquired. Much may be done for the general health of the people by providing illustrated pamphlets dealing with the questions of fresh air, ventilation, furnishing, the use of tents and shelters, the importance of constructing verandahs to all houses and the kind of soil and location to be preferred for a house. Then special pamphlets should be provided describing the liability of infection, the danger of all sputum, the best means of destroying it and the importance of frequent cleansing and disinfecting of rooms occupied by tuberculous patients. Such pamphlets would instruct in prophylaxis as well as in the care of tuberculosis, and could be distributed through physicians especially such as dealt with the care of tuberculous patients. In England much is being done in this way by the anti-consumption league. Illustrations could be given of simple inexpensive balconies, of shelters, tents and summer houses. All this should be done with care so as to not produce an unreasonable fear of the disease as has been done in regard to the acute infectious diseases. Such work on the part of the Board would naturally lead to notification of the disease in order that the work might be more thoroughly done, especially in the disinfection of rooms of tuberculous persons. The increased care that would follow the improved education of the public would lessen the danger of infection of hotel rooms, sleeping-car berths and public places generally. The public would also learn

the importance, before occupying a house, of enquiring into its history and of the necessity of its disinfection especially if it had been previously occupied by tuberculous persons. Of course if the health authorities performed their part well, the public would be duly protected from such dangers.

There are three conclusions that should be specially emphasized, first, that the disease, in the early stages, if properly treated, is very curable, the great mortality from it being due to its great prevalence.

Second, that our climate is not detrimental to tuberculous patients especially in the early stages as it is fairly dry and its moderate coldness is no barrier to their being out-of-doors. In fact they should do better in the stimulating cold of winter than in the depressing heat of summer provided there is as free an out-of-door life.

Third, in order not only to lessen the prevalence of tuberculosis and in time "stamp it out", but to successfully treat those affected it is necessary to largely increase the Sanatorium accommodation; to make proper provision in all general hospitals for the care of cases that cannot be otherwise cared for; and to so improve the home of the people as to render them suitable for the care of the well no less than the treatment of the sick. a/

THE MEDICINAL TREATMENT OF TUBERCULOSIS.

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TO even name the various medicines which have been vaunted for the treatment or cure of tuberculosis, would occupy more space than is at my disposal; and while much interest could be excited, from an historical point of view, by the consideration of such drugs used from the earliest times; and while such a review would be extremely interesting also, as enabling us to institute a comparison between the scientific attainments of the medical mind of to-day, and the more empirical state of that of the profession within even our own time, the purposes of this short article will be best served by a necessarily brief consideration of some of the most important drugs used in this fell disease; as many of those exhibited even within the last two decades have entirely fallen into disuse and well merited oblivion. The purpose of this paper also, does not lead me to consider the action or use of such drugs as may be used symptomatically in the treatment of tuberculosis, as, say, the bit-

ter tonics for the anorexia which is common to tuberculosis, and many other morbid states of the system. Rather, I shall confine myself to the medicines used especially in the treatment of pulmonary phthisis, premising that the work cannot be in any sense exhaustive, but rather suggestive.

If any substance in the whole realm of materia medica were to be left for the use of the patient suffering from tuberculosis and all the others taken away, the great mass of the profession would choose *oleum morrhuae* as the one which could least be spared. To enter upon a discussion of its merits would not interest the readers of this Journal. One word I would like to say, and that is, that the whole product, usually in the form of an emulsion, seems more beneficial than any of the extracts of cod liver oil which are put on the market for the sake of their palatability, but which it is to be feared are at best, emasculated products.

Emulsions are usually better borne than the pure oil, and enable the physician to combine in one dose other medicines valuable in the treatment of the disease, as, iron, hypophosphites, etc. The writer would say that good will come from the exhibition of this remedy in some form, irrespective of other methods of treatment which may be carried on at the same time. The instances and times when it cannot be used with some benefit will be found to be very few, if due care and thought be given to its exhibition by the attending physician. This is especially true in the earlier stages of the disease. If there be one form of the disease in which it seems more beneficial than another, it is in the glandular involvement of young persons and children—though it is valuable at all times and in all forms when it can be given in such form so as to agree with the patient.

Creasote and its derivatives.—It is now some 15 years since this remedy was first exploited, and among the scores of drugs that have had their day since then, it still holds its place. Not so high a place indeed, as it did during the first year or two of its use, but it is still considered eminently valuable in the treatment of the disease, and especially in pulmonary phthisis. The purest form of the drug is essential to success, and unfortunately even this sometimes disagrees with the stomach. Patients differ greatly in the amount they can tolerate, but in many cases to say the least, by commencing with two or three minims, disguised as best possible, and increasing to the limit of the stomach's toleration, large doses, up to 30 minims and more even, may be given three times a day.

Its good effects seem to be directly proportional to the amount used. Here, as in so many other cases of treatment, a good stomach is above

price. Thus, one young man who came under the writer's care in what seemed an absolutely hopeless condition, with emaciation, high fever, night sweats, two small cavities, *et al*, rapidly increased the dose to 30 minims three times a day ; taking at the same time (on persuasion) large quantities of nourishment and 4 oz., of pure oil per day, and rapidly improved in all respects. He was practically cured in about 10 months, all because he had a stomach " above rubies ".

It may be given combined with cod liver oil, in an emulsion, or by inhalation. It is not believed that creasote has any specific action upon the bacillus, but doubtless it is the most efficient drug, pure and simple, that we have ; cod liver oil being a food as well as a medicine. Under its persistent and skilful exhibition, the night sweats are lessened, the cough becomes less troublesome, assimilation is increased, and the condition is improved generally.

Many derivatives have been put on the market which are said to be less irritating to the stomach. Creasotal, or creasote carbonate, a liquid compound representing the carbonates of the various substance found in creasote, was tested in Von Leyden's clinic. The results as shown were highly satisfactory. The patient begins with 5 drops three times a day, increasing the dose three drops per day till 25 drops are taken at a dose. After being kept at this maximum dose for some weeks or even months, it is gradually diminished till 10 drops are taken at a dose. No interference with appetite, etc, is noted in these tests, and the inference one would draw from this report is that the action of the drug is specific rather than symptomatic. In Europe it seems more popular than pure creasote at the present time, and its trial is certainly advised in cases where the original creasote has become hateful to the patient.

Guaiaicol.—Like many other remedies guaiacol had numerous advocates. The consensus of opinion seems to be that it possesses no advantages over creasote. It may be used for a change, as patients frequently tire of the use of one drug for months together and the effects of a change is sometimes beneficial, *per se*. Administered in pearls of one or two minims three times a day ; hypodermically, one minim in olive oil, or thus combined with iodoform, it has been found useful, though, as stated above, either creasote or creasotal is preferable.

The use of guaiacol for the lowering of temperature from which so much was expected a few years ago, has been practically abandoned. Fifteen or twenty minims rubbed on the skin will produce a rapid but transient reduction of the temperature.

Arsenic.—A few words should be said about this drug, which was one of the sheet anchors in the treatment of pulmonary phthisis in the

days of our fathers and grandfathers, but which is now, it is to be feared not so often used; which omission is to the detriment of the patient.

Its mode of action is the production of fatty degeneration of the abnormal products of inflammation, thus rendering them more easy of absorption or expectoration, with a resulting lessening of the nidus for the bacillus. The hypophosphites probably act in the same way, and as both arsenic and hypophosphites are excellent general tonics, their double rôle in the treatment of such a disease as pulmonary phthisis is easily understood. They are very valuable.

Iron.—This drug also has fallen more or less into disuse in the treatment of the disease since the host of synthetic remedies, serums, antitoxins and tuberculins have been coming to the front. Circumspection is necessary in its exhibition, for when the alimentary tract, and especially the stomach, is not in good condition, and also when there is considerable rise in temperature, iron does no good, but rather harm. In the anæmic condition found in the early stages, some easily assimilable form of iron is not only indicated—it is a necessity.

Alcohol.—The routine exhibition of alcohol has fallen into disuse. The old saying that a man can use 2 oz. of alcohol per day as a food is, perhaps in the light of modern physiological chemistry, none too trustworthy. Much depends upon lung capacity, exercise, climate, nerve force, etc. The central idea in its use in phthisis seems to have been that of controlling nitrogen-loss. Rosemann concludes that "the use of alcohol to control tissue destruction in acute diseases is illusory, and is likely to lead to grave errors, since it causes fat retention, but the nitrogen loss goes on and the patient is really in a worse condition than his appearance indicates."

The old idea that its continuous use promotes fibroid changes in the lungs is now exploded.

Given with milk, or as a hot drink at bed-time, or with honey or glycerine, and in small quantities, it is often of service. If it promotes a sensation of well-being, does not flush the face, does not impair the appetite, and is not followed by a sense of depression when its effects wear off, it may be considered beneficial. Much care is needed on the part of the physician in prescribing this drug and its routine use is by no means to be recommended.

The number of new remedies with long names, and bizarre chemical formulæ are legion and while few persons in private practice pay much attention to them, perhaps a note of warning is necessary, especially to the younger members of the profession, that they may not be led away by any *ignis fatuus*, of the scores of such lights which flare for a few

months through the pages of serial literature, only to go out into everlasting night. Only a few of them upon which favorable reports have been made, seem worthy of being mentioned in this place.

Cinnamic acid and Cinnamate of Sodium.—These have been favorably reported upon by Landerer and Lovtsky. The acid, in addition to being an antiseptic, produces in tubercular subjects a hyperleukocytosis. The cinnamate of sodium is used by intra-venous injection, about one-tenth of a grain, increased, in normal saline solution every 48 hours, this to be persevered with for from four to six months and then suspended for one month.

Thiocol-Roche.—This contains 52 per cent. of guaiacol. The dose is from 15 to 30 grains daily. Different writers have reported favorably on its action.

Nitrate of silver, though not a new drug, is new in this connection, and is said to have produced good results (Mays) when injected in the neck.

Inhalations.—The method of treatment by inhalation appeals to the patient, but, like so many others, has not been so successful as its advocates hoped it would be. Mention may be made of a few drugs which in certain cases seem to have proved beneficial.

Formalin in the combination of one dram of this substance with 4½ drams of glycerine in 5 oz. of water. If the mucous membranes are sensitive 10 minims of spts. ammon. aromat. are added to the mixture.

Chloroform is reported to have proved efficacious in checking the growth of the bacilli.

Hot air inhalations are highly recommended by many writers.

The various balsamic preparations, terebene, tolu, creasote, eucalyptus, and benzoin, while having no specific action, are found useful for special symptoms.

Counter irritants, as croton oil, tincture of iodine, and especially of the red iodide of mercury ointment of the B. P., are often found useful in relieving the pleuritic and myalgic pains. It is believed also that they tend to lessen the congestion in the parts beneath, and thus lessen cough, and put the patient in a condition of greater comfort.

A word or two may be added regarding a few remedies for the treatment of some of the symptoms specially troublesome in pulmonary phthisis.

For the cough.—Heroin has been lauded, and Daly states that it also checks the night sweats. If this be true, it is a valuable adjunct. When first exploited it was thought to have less unpleasant after-effects than other derivatives of opium but the most recent reports would lead us to

suppose that this, however desirable, is not true; so that codeia, when that drug will answer, or morphia otherwise, are holding their old place. Inhalation of tincture of benzoin, creasote, oil of eucalyptus or turpentine in some simple manner, as by pouring the drug on hot water and inhaling the volatilized particles, will often lessen the catarrh and give relief from irritating cough. Warm drinks, a small amount of hot whiskey with honey or glycerine, are sometimes beneficial, as are alkaline drinks, and especially in the later stages with cavities, when expectoration is absolutely essential. The above and similar means render it less exhaustive.

For night sweats.—Nothing has been brought forward equal in efficacy to the old atropine, in doses of $\frac{1}{120}$ th to $\frac{1}{60}$ th of a grain. The resulting dryness of the mouth and throat, and still more, the increased cough next day from the stimulating effects of the drug on the respiratory centre, makes it a not ideal remedy, but the best one we as yet possess. When the cough and restlessness increase sweating, the addition of say $\frac{1}{8}$ th gr. of morphia is indicated. Among the dozens of other remedies which have been recommended for this troublesome symptom, we may mention aromatic sulphuric acid, muscarin, gallic acid, picrotoxin, sodium tellurate, 4 or 5 grains a day), and tincture of nux vomica.

For the fever.—The drug treatment of pyrexia is most unsatisfactory. As has been stated, the application of 15 to 25 minims of guaiacol gives a transient respite. Digitalis, quinine, antipyrine, antifebrine, *et al.*, are all weighed in the balance and found wanting, though any one of them may aid in suitable cases; the depressing effect of the coal tar compounds and the evil effect of quinine upon the stomach when given in adequate doses, being the principal objections to their use.

GOVERNMENT ACTION *re* TUBERCULOSIS.

By P. H. BRYCE, M.A., M.D.

Secretary of Provincial Board of Health of Ontario.

THE attitude of the medical profession and sanitary authorities towards tuberculosis, during the past fifteen years, has gradually become so well-defined that there seems to be no longer any necessity for discussion as to, What ought to be done? but rather, How it is to be done? The authorities in so conservative a country as England, have adopted as a sanitary measure in many local health districts notification of cases of tuberculosis, on the same basis as notification of other communicable diseases; while in other states and countries, compulsory notification has been put in force. While this primarily depends upon the State-powers.

granted to municipalities, yet it must be distinguished from the more formal legislation and executive acts, which Governments may themselves undertake for dealing with the problem of State aid to consumptives or, for suppressing the disease. It would be of no special value to refer to the old sumptuary laws of Italy during the 18th century for dealing with consumption, since the nature of the disease had not then of course been elucidated; but we shall confine these references to the work of recent years.

While the Hospital Service of Great Britain has greatly developed during the past century, whether as associated with its Poor Law system, or its municipal charities and medical schools, and though it is well known that "Chest Hospitals" or hospital for consumptives have existed in London and elsewhere for many years, yet it is nevertheless true that there, as elsewhere, consumption has until quite recent years been treated simply as one of the many diseases ordinarily dealt with in General hospitals and even in public wards. The situation as it was in London in 1882, is illustrated by the fact that although in that city there were 30,000 beds in public hospitals, yet there were but 482 beds in the four existing hospitals for "Diseases of the chest and consumption." The mortality for that year from consumption in London, was 8000, of whom probably 75 per cent would be amongst the poor. Such then was the situation in Britain at the period when Prof. Koch made his memorable discovery.

That the idea, which is so rapidly finding public favor to-day, is not of yesterday, on this continent, may be found in a series of resolutions unanimously adopted in the Public Health Section of the Pan-American Congress in Washington, in 1893, urging the system of County Sanatoria, as the solution of the problem for dealing with consumptives.

Undoubtedly however, it is to Germany, that we have to turn for the earliest practical schemes for dealing with consumptives in any fairly systematic way, although consumptive hospitals had existed at Ventnor, Bournemouth, and Torquay in England, as also at a number of seaside places in France. The progress of the work in Germany had been made possible by Imperial legislation passed in 1883, providing for the compulsory insurance of all classes whose daily wage did not exceed \$1.50 per diem, or for some 12,000,000 of the population. The residents of a district were required to insure in guilds, free associations, friendly societies, or with municipal or state insurance societies in their several districts, and the cost of such insurance was deducted by employers from the wages. The annual cost varied from 2 to 4 per cent of the wages. In 1891, the cost of sickness in the different associations was, \$21,312,610

for as many as 21,498 associations. The enormous extent of the operations of this Act is thus seen, and when in 1894, Weicker arranged with the Hanseatic Assurance Co., to receive a number of their tuberculous insured, while in the early stage of the disease, as patients at the Krankenhaus, or Sanatorium at Gorbisdorf, it may be said that the practical advent of the new idea had taken place. The cost was partly paid by the Insurance Company, and partly by the patient. When it was found, after 13 weeks' stay, that 80 per cent of the first patients went away so far cured as to be able to resume work, the commercial importance of the scheme became so apparent to the Assurance Companies that its rapid development was assured. Since then there have been established some 45 Sanatoria, owned either by states, by municipalities, by assurance companies, or by charitable associations, in which in 1900, some 4500 beds existed, and where 25,000 patients received treatment.

It is now some three years since the National Association for the Prevention of Tuberculosis was formed in Great Britain, and through congresses and special meetings in the different large centres, it has rapidly developed the idea of the open air treatment of consumption, which had proved so successful in Germany.

The problem of dealing with consumption in England, has been admirably presented in a recent address by Dr. Burdon Sanderson, who enquires how the work of suppressing tuberculosis is to be carried out: whether by Imperial authority, by County Councils and sanitary authority, by Poor-law Boards, by compulsory insurance societies as in Germany, or by levying a special county Poor Rate? He recalls the fact that that great sanitary administrator Sir John Simon, urged owing to the peculiarly chronic character of the disease, its special incidence upon the industrial population, and its wide-spread prevalence, that to be adequately dealt with, it should be dealt with as a special work by a special poor-rate.

A review of the work done within the last two years, since the organization of the National Association for the Prevention of Tuberculosis, shows that in keeping with the peculiar national characteristics of the English people,—defined by M. Boutmy, as “uncontemplative, impatient of abstractions, of the niceties of thought, and of the regimen of logic, the Englishman presses on to results, and is careless of anomalies”—the practical development of measures for dealing with consumption, is travelling along the several lines suggested by Dr. Burdon Sanderson. There does not seem to exist any published report of the full operations of the Branch Societies of the National Association for the Prevention of Consumption, but a reference to the weekly medical liter-

ature of the past few months, readily illustrates the situation. We have first the several Branch Societies holding meetings and having addresses and reports presented giving general and local statistics of the prevalence of the disease, as seen in mortality tables, and through the social prominence of those present, cultivating an interest in the higher classes whose influence and substantial aid are thus secured. There is next the active work done by the Local Government Board Sanitary Department, which prepares circulars, suggesting lines of municipal action to the local authorities in matters of foods and factory inspection, and likewise grants orders for loans, where local sanitary authorities undertake municipal sanatoria or hospitals. Following, and as a part of the sanitary administration, is the action taken by the County Councils, either separately or several combined for promoting county action in dealing with the subject.

The following are illustrative of county activity ;—The Westmoreland Association has interested the County Council, and already a number of the Municipalities have subscribed grants, amounting in June last to £731 and special grants for the annual support of 20 free beds, varying from £50 to £60 per bed, the County Council endowing one free bed at £60. The Durham Association reports the distribution of much literature ; Sunderland Town has decided upon voluntary notification of cases, giving 2s. 6d. per notification, and has already Horn Hall Sanatorium, with 18 beds—shortly to be increased to 40—in which were treated last year 36 patients, of which 14 of 16 primary cases returned to work, and 11 others were greatly improved and returned to work. A committee for Gloucester, Somersetshire and Wilts, has been formed to establish a sanatorium at Winsley for poor consumptives. The County of Perth has established a sanatorium at the Hillside Home, Perth, started through the gift of Sir Robert and Lady Pullan, of £8000, with a capacity of 20 beds, and bazaars are being carried on in different towns to raise £10,000 more for endowment and extension, the town of Perth having in this way already raised £3,000. As we would expect the larger urban centres have undertaken work independently, Leamington Town Council has instructed the medical officer of Health to arrange for the notification of cases, that it may take action in all those not properly cared for at home, and which may become dangerous to others. Kendal Town Council has ordered a prosecution in all cases where the bacilli of tuberculosis are found in public milk, and has called on all municipalities in Westmoreland to do the same. Halifax has made an order requiring that all cases of consumption with expectoration be notified. Manchester had similarly already put in force the recom-

mentations recently adopted by the Congress on Tuberculosis. Morpeth, Sheffield, Hull and Ayr have also taken action.

The London Association, under the auspices of the National Association has reported a year's results of the National Sanatorium at Bournemouth and discharged 226 patients, of whom 191 received the full open air treatment, with an average of 12 weeks stay; 63 per cent. of early cases showed arrest: 40 per cent. of those in intermediate stages showed good improvement, but 11 per cent. only of advanced cases improved. Plans are being prepared for an extension of the institution.

The North London Hospital for Consumptives, at Hamstead has, through an anonymous contributor, received a gift of £100,000 for the erection and partial endowment of a sanatorium of 100 beds, to be located on 60 acres in Hertfordshire. The Brampton Hospital is establishing a county branch and Convalescent Home, with 100 beds at Heatherside, near Bagshot, for open-air treatment.

Liverpool has two sanatoria erected at the expense of their Boards of Guardians and has just had opened, by Hon. Mr. Long, President of the Local Government Board, one in Delamere Forest on 30 acres of land, for 32 patients, Lady Willox and Mr. W. P. Horley each giving £7,500 towards the fund.

Dundee Infirmary has 4 open shelters in connection with the Infirmary where 80 patients were very satisfactorily treated last year.

The London Sanatorium Association has begun operations with a loan of £30,000, at 2½ per cent. through the kindness of Wertmer, Beit & Co. who are to receive interest only after expenses have been defrayed.

Edinburgh is preparing a scheme for a hospital of 100 beds for advanced cases, in the present fever hospital, it to be transferred to a new building in the suburbs.

In addition to these there are several private sanatoria at different points, illustrating the value of open-air treatment. From these illustrations it becomes amply apparent that apart from any general law, the highly developed, though complicated, and cumbrous municipal machinery of Great Britain is, through a rapidly developing public interest, dealing with this as she has with so many other social problems, in a manner which reflects that spirit of practical wisdom, which in the social developments of the past century, has made her *facile princeps* among the nations.

We have already noticed what has been done in Germany, and has been well begun in France. The work has however extended greatly beyond the confines of these two countries on the Continent. In Switzerland the Canton of Zurich has established a sanatorium at Wald of 88 beds.

Belgium, Holland and Spain are establishing sanatoria, and the Swedish parliament has recently voted 850,000 crowns for a sanatorium, which amount has been supplemented by the gift of 2,000,000, crowns recently given to King Oscar, who has devoted it to sanatoria in Northern and Central Sweden.

We may now turn to the progress of the sanatorium idea in America. The last United States census shows a mortality from consumption at least equal to that of England, and it might be expected that the importance of this subject would before now have taken a strong hold of the people where such strides in material progress have been made; but an enquiry recently made, elicits the following facts. For the 100,000 merchant sailors, amongst whom, 1000 cases of tuberculosis are treated annually, the Marine Hospital service has an hospital or sanatorium at Fort Stanton, New Mexico. Replies from State Hospital officers indicate that no legislative action towards establishing sanatoria for consumptives has been taken in thirty states. Of these, Illinois, Maine, Michigan, Minnesota, Nebraska, New Hampshire, New Jersey, Pennsylvania, Rhode Island, have introduced bills before the State Legislatures for a State sanatorium, which have, however, not yet become law. New York state, however, passed an act in 1900 for establishing a State Hospital in the Adirondacks for treating incipient pulmonary tuberculosis. Powers are given the trustees for admitting free patients. The amount of the grant for the same was \$50,000 and an additional \$100,000 has been given in 1901. Massachusetts has also made provision by a grant of \$150,000 and has established at Rutland a state sanatorium for incipient cases.

It would appear further that in the United States the genius of the State constitution makes but little provision for the adoption of general State laws, looking to aiding municipalities to establish such institutions. It may be either the State or it may be the municipality, but State assistance with State oversight is but seldom adopted. That there is a rapidly developing municipal sentiment looking to the care of, at any rate, the consumptive poor in advanced stages, is apparent from the existence of several institutions such as the Cook County, Hospital for the Poor, Chicago, of 300 beds, a New York city hospital a few miles up the Hudson and the Sharon Sanatorium near Boston with however a philanthropic basis. Such would seem to be so far the principal legislative developments in the United States, of special institutions for the treatment of consumptives.

Turning to Canada it may be said that a grant has been made towards a sanatorium near Halifax, by the Nova Scotia Legislature, but apart from that the only legislation bearing upon the subject is that

passed by the Legislature of Ontario, in 1900. The bill, so far as the writer is aware, is the first on the Statute book of any country, which provides for the systematic establishment of sanatoria, as a part of the sanitary machinery of the country, whereby the State assists, and inspects the sanatoria, which may be established by any county or municipality or groups of municipalities, along lines clearly set forth by the Statute. It is essentially in keeping with the evolution of the other public charities of the Province, wherein governmental, municipal and philanthropic financial aid are combined, and which would seem likely, when developed by the aid of an educated public sense both as to the need for such institutions and the incalculable benefits to be derived from them to prove the nearest to a practical solution of the problem, at any rate in such communities as exist in America.

What is specially urgent at present is the formation of a strong National organization with its associated Provincial Societies for educating through literature, public lectures and the example of liberal-hearted men of means in our several counties, the people and municipal authorities up to a point where they will take such positive action, as has been done in the matter of General Hospitals and County Houses of Industry as well cause by-laws to be submitted for the establishment in counties, or groups of counties of Sanatoria, with separate hospitals for advanced cases. Such will enable Local Health Authorities to press forward the work of notification of cases, and the household investigation of those cases, which through poverty, become a danger to their families and thus indirectly to the public.

PREDISPOSITION OF SPECIAL ORGANS TO TUBERCULAR INFECTION.

DIE Deutsche Medicinische Wochenschrift for October 10th discusses the predisposition of organs for infection with the B. tuberculosis, pointing that the larynx and trachea enjoy a comparative immunity. That the intestinal mucosa is not one of the more susceptible tissues is shown by the fact that it is often found intact when the mesenteric glands are involved and when pulmonary lesions exist. Nevertheless were the tubercle bacilli found in milk and butter really virulent for the human organism, we should expect to find primary enteric lesions of some frequency, whereas they are very rare.

A. J. M.

THE SELECTION OF CASES OF PULMONARY TUBERCULOSIS SUITABLE FOR SANATORIUM TREATMENT.

DR. N. A. POWELL, Toronto.

AN experience extending over nearly five years, and taking in the physical examination, the charting, and the estimation of many hundreds of applicants for admission to a sanatorium is the basis for what it is proposed here to present. In the working out of this experience, views once strongly held, have undergone material change, and the possibility of helpfulness to cases neither recent in time nor limited in respect to lung involvement has been a most pleasing surprise. Though suggestions made to the family physician who have referred cases to me, patients have been distributed to health resorts in various parts of America, but in the main the attempt has been to determine what particular classes of tuberculous patients would receive the greatest benefit from a residence in the Muskoka Cottage Sanatorium, situated near Gravenhurst. This institution was built and is being maintained to demonstrate that consumption recognized early and subjected without delay to what is embraced under the term "Sanatorium Treatment" is a curable disease. Its annual reports state fully and frankly what has been accomplished. An initial expenditure of some \$80,000 dollars has made it possible to treat sixty resident patients at a time. At present this accommodation is not nearly sufficient to care for the suitable patients desiring admission, but the pressure now felt will be relieved in a few weeks when the new buildings for public ward patients are ready. Built in our Laurentian region at a moderate rather than an extreme elevation, with air made dry by blowing over sun warmed granite hog backs and balsamic from its passage through forests of pine its situation is ideal and its success in coping with lung disease, in the class of patients for which it is designed was from the start assured.

One, not a physician has written :

" There's iron in our northern winds
Our pines are trees of healing ".

And his words are words of wisdom.

The difficulty has been to secure patients in a sufficiently early stage, and the distressing part of my work has been having to refuse admission to patients unsuitable by reason of the nature of the invasion or the stage of disease reached.

A physician's own health is known to influence largely his view regarding the outcome of the disease in others. Chronic indigestion, for example, may cause him to look with gloomy foreboding upon a simple

metastasis of mumps, seeing in it the probability of greatly impaired future usefulness or possibly the extinction of an ancient line.

Per-contra, if his own health is flawless, he may see for his patients possibilities of improvement which others less optimistic cannot discern. I can only explain in this way and on the theory of robust health in my *confreres* the cases in the cavity stage, the cases with bilateral deposit and laryngeal ulceration, the cases of phthisis florida, the cases with large and frequent hemorrhage, the cases with dilated heart or with ruined digestion or with massive fibroid change, as well as others equally hopeless which come to me as being "incipient and most suitable for sanatorium treatment."

Provision requires to be made in the near future for all such cases but the Sanatoria at Gravenhurst, must be kept for patients who can receive more than brief temporary benefit.

Without attempting to follow a strictly scientific classification it may be useful to consider certain clinical groups more or less suitable for regulated open air treatment in the Muskoka region as well as for the hyper-alimentation which is the element of next greatest importance in securing arrest of the disease and ultimate cure.

Unresolved pneumonias and cases of pneumonic (c) phthisis of limited extent and with the acute stage well over are, I am led to think better cared for in sanatoria than elsewhere. Cases of acute broncho-pneumonic phthisis have nothing to expect from the open air treatment, and it is only from the fact that I have been importuned to admit such cases, because they were of recent development, that they are here mentioned.

In chronic ulcerative phthisis everything depends upon the early recognition of the disease.

It is greatly to be feared that until the fact is recognized that a thermometer and a set of platform scales may point the way to an earlier diagnosis than is possible by means of the stethoscope and the microscope, valuable time will continue to be lost and chances for recovery needlessly sacrificed.

If we wait for localized rules and for an expectoration containing tubercle bacilli we wait too long. Elsewhere in this number of THE LANCET the elements of an early diagnosis are discussed, and in consequence they will not be here taken up.

Our general hospitals will not now admit cases of phthisis, and our students have imperfect means of obtaining that training in the physical diagnosis of this disease which is all essential.

If the carrying out of plans now fully matured is not again blocked,

we shall shortly have in the immediate vicinity of Toronto an opportunity for the almost constant teaching of small classes with abundant material for illustration. When this time comes—and it may come soon—I trust that many physicians now in practice will visit Toronto for purposes of post-graduate study, and that the facilities provided will aid in the removal of such stagnation as is inevitable when one's work is isolated, and cannot be checked and compared with the work of others who are expert.

If my own experience is a guide, such a review will prove of more real benefit than any number of the courses on operative surgery or gynecology, now so popular in many cities.

Returning to our clinical groups, we next consider the hemorrhagic cases. Early hemorrhage, mixed with mucous, limited in extent, due to congested areas, and not to the ulceration of vessels or the giving way of small aneurisms, is in itself often a fortunate occurrence. It compels attention, and may lead to treatment which, without this warning, might have been disastrously postponed.

8/ The other forms of hemorrhage mean, of course, advanced lesions, with softening, and their occurrence clouds the prognosis. As to the pleuritic groups, we must distinguish the primary from the secondary forms. French pathologists tell us that with them 80 per cent. of all pleuritis are tuberculous, and Bowditch had phthisis developed in thirty out of ninety cases treated by aspiration. In next month's number my assistant, Dr. Lusk, will point out the great relative frequency of pleurisy in a series of cases tabulated by Dr. J. H. Elliott.

It was the writer's fortune to practice for ten years in the County of Simcoe, and to treat there a great many cases of acute pleurisy, with or without effusion. In not a single instance did phthisis follow these attacks, but in cases seen since my removal to Toronto the sequence has become a common one. Does not this justify the belief that in northern Ontario pleurisy tends toward complete recovery, while along the great lakes its after treatment involves graver responsibility? Up to the present time twenty-five operations for empyema have been done by myself, and, so far as traced, in but a single one of these has there been an ending in phthisis. Laryngeal cases in the state of infiltration only, and with limited lung deposit, have often with us shown signal improvement. They are still being admitted, but when accommodation is provided elsewhere the line must be drawn more closely. Cases with open laryngeal ulcers are always unsuitable for sanatorium treatment.

Turning now to fibroid condition of the lungs becoming in an early or later stage tuberculous, it may be stated that during the summer

months a Muskoka residence is likely to prove distinctly helpful. In spring and fall the risks of catching cold are not to be ignored, while in the settled, dry cold of winter I have known a number of cases, not too advanced, to be signally benefited.

Reference has been made in this communication to the painful duty of refusing admittance to patients greatly needing and desiring treatment. All such must soon be provided for, and it is our duty to point out to men of means the great field for usefulness now open to them, and their privilege in this respect. In conclusion, may I be pardoned for mentioning that amongst the most delightful experiences of present years may be counted the meeting with a large and ever-growing number of persons restored to health and to all life's activities through agencies which are the subject of this paper.

SERUM DIAGNOSIS OF TUBERCULOSIS.

E. ROMBERG, (*Deutsche Med. Woch.*, May 2nd, and 9th, 1901) describes the work of Arloing and Courtmont. The *modus operandi* of this test is briefly: an emulsion is made with a $\frac{1}{2}$ per cent solution of caustic soda from dried divided tubercle bacilli (in his belief this is as effectual and more reliable and convenient than the cultures as used by Courtmont). Blood is taken from the loin by cupping, it is left standing for three to six hours the serum is removed and mixed with the emulsion diluted three times, while a control tube of blood from a non-tuberculous patient is also used. The tubes must not be shaken and about 5 c. cm. of each is used. Agglutination is marked by the falling of a precipitate and the perfect clearing of the upper part of the mixture, and this requires from twenty to forty hours. The reaction is positive in mild or early cases and negative in those which terminate rapidly or are far advanced, thus it is not only of diagnostic but prognostic value.

An interesting coincidence is noted by comparison of the result of this test with Nageli's table of the frequency of tuberculosis, the statistics from the two showing marked agreement. Romberg's results justify the conclusion that positive agglutination is a certain proof of the presence of a progressive or at least not inactive tuberculosis, while a negative result means that there is no tuberculosis or that the deposit is quite healed or that the case is far advanced and has a bad prognosis.

A. J. M.

INTRAPERITONEAL TUBERCULOSIS.

By JAMES F. W. ROSS, M.D.

TUBERCULOUS PERITONITIS.

CLASSIFICATION. After a considerable experience with tubercular peritonitis I have come to the conclusion that many of the classifications given are artificial and confusing. I consider that the disease occurs in two forms :

1. With fluid, (the ascitic form).
 - (a) Serous ;
 - (b) Purulent.
2. Without fluid, (the dry adhesive form).

In either variety we may have tubercular disease in other organs or such disease may be entirely absent. When fluid is present it may be either serum or pus.

DEFINITION. Tubercular peritonitis is a disease of the peritoneum consisting of the deposit of tubercle in isolated patches, producing nodules causing inflammatory adhesions and, in some cases, the effusion of fluid, and affecting many of the organs covered by peritoneum, such as the ovaries, Fallopian tubes, uterus, bladder and kidneys, stomach, intestines and mesenteric glands, omentum, liver and spleen.

GENERAL CONSIDERATIONS. Of all the forms of chronic diffuse peritonitis the tuberculous is the most common and of the greatest clinical importance. In acute miliary tuberculosis the peritoneum, especially the omentum and the peritoneal covering of the liver and spleen, is studded with small grey miliary tubercles. This condition is oftentimes accompanied by serous effusion and is not attended by any symptoms that can be definitely ascribed to it. Under such circumstances it is part of the general tubercular infection. When it occurs apart from acute miliary tuberculosis it becomes a distinct disease with definite clinical signs. Small nodules are present and these nodules are similar in appearance to the nodules in miliary tuberculosis found elsewhere and require no special description.

There is a great tendency to the formation of a new tissue, and this tissue produces firm adhesions to one another of the parts affected, except when fluid is poured out separating the surfaces.

The omentum is often shortened and thickened until it can be felt through the abdominal wall as a hard mass that may easily simulate a malignant tumour. The mesentery and mesenteric glands are often found thickened. The bowel wall is very much thickened, injected with

blood, and velvety in appearance. The parietal peritoneum may be one-half an inch thick and the tissues of the abdominal wall, external to it, may appear oedematous as if filled with a turbid fluid, giving it a greyish appearance and looking just as the abdominal wall does external to an appendiceal abscess, or some intra peritoneal septic condition.

The quantity of fluid poured out varies very greatly. In some cases it is pocketed, in others encysted, and in others free in the peritoneal cavity. The fluid is blood stained serum. Sometimes there is no blood staining and the fluid is then straw colored. The fluid may become purulent but this is a rare occurrence, except as a consequence of operative interference or intestinal perforation from within. Coils of intestine ulcerate, occasionally, into one another or into the bladder or through the abdominal wall. In some cases there is a complete absence of any chest affection; in others there may be tubercular pleurisy, while in another class of cases the lung tissue itself may be affected. Primary tuberculosis of the genito-urinary organs is often followed by general tubercular peritonitis.

It has been stated by some that there are two separate and distinct conditions in which the deposit of fibroid nodules takes place in the peritoneum. One of these is of tuberculous origin and the other of inflammatory origin. If this is so, it is strange that we do not meet with these fibroid nodules in all cases of subacute inflammation of the peritoneum. It is not difficult to explain the co-existence of tuberculous disease and tumor of the ovary or uterus. If a tuberculous diathesis exists in the patient, tuberculous deposits are liable to take place in parts in which irritation is present. If a growth is present, irritation is present, and it is but natural to suppose that tuberculous deposit is all the more liable to occur in cases in which there is a growth than in cases in which there is no growth. The fibroid of the uterus or the cyst of the ovary acts as the exciting cause of the deposit just as the inhalation of dust acts as the exciting cause of the deposit of tubercle in the lungs.

The age at which the disease may occur varies. In my cases I found it most frequent between the ages of 15 and 25; the youngest patient being 14 and the oldest 49.

SYMPTOMS OF TUBERCULAR PERITONITIS. In the female there is frequently some disturbance of menstruation. At first the menstrual flow appears to be increased in quantity. There may be irregular floodings; later on, amenorrhœa often sets in and a leucorrhœal discharge is frequently met with.

In many of the cases there has been a history of a previous illness that has, perhaps, been but ill understood. The patient has at the time suffered from abdominal pains and low fever, from which a partial re-

covery has taken place. Then emaciation sets in, together with enlargement of the abdomen. The patient feels an unaccountable weakness and, though the appetite may remain fairly good, the health becomes seriously impaired. The patient becomes anæmic. In some there is an irregular diarrhœa, perhaps with a discharge of blood-stained mucus. Nausea and vomiting are sometimes present. The temperature and pulse become elevated and a hectic flush appears upon the cheeks. The teeth become dry and covered with sordes. The tongue is glazed and red. Sometimes a cough sets in and râles may be noticed over some portion of the lungs, or fluid may be found in the right or left pleural cavity. These patients may remain ill for many months; they then look as if in the last stages of septicæmia. In some cases chest trouble may be noted before there are any abdominal symptoms.

The symptoms may run over a great many years. One of my cases was tapped six years prior to the date of my operation on her. In some cases the onset of the symptoms is quite sudden. This appears to point to the sudden entrance of the tubercle bacilli into the parts.

The character of the pain varies from a steady, dull, aching pain to very acute pain similar to that found in acute peritonitis.

PHYSICAL EXAMINATION. On physical examination, bowel resonance is found in front and dullness in the flank, if fluid is free in the peritoneal cavity, but, as a rule, bowel resonance is irregularly distributed. If the fluid is encysted, the area of dullness will be limited to one portion of the abdomen. Irregularly hard nodules may frequently be felt on palpation. A peculiar far-away feeling to the parts is to be observed if the peritoneum is thickened, or, in other words, there is an obscure, indefinite feeling not to be met with in other intra abdominal diseases.

Pelvic Examination in Women.—The bi-manual examination may indicate the presence of masses on either side of or behind the uterus. The pelvic cavity may be filled with such masses. Pelvic examination, under such circumstances, is as a rule indefinite.

DIAGNOSIS. The diagnosis lies between tubercular peritonitis; chronic peritonitis, accompanying pus tubes or abscess of the ovary; malignant disease of the peritoneum or cancerous peritonitis; papilloma of the ovary; ectopic gestation subsequent to rupture of the sac; ovarian cyst; and chronic appendicitis.

Pyosalpinx or abscess of Ovary, not tubercular. In a case of double pyosalpinx, or abscess of the ovary, due to direct infection subsequent to labor or abortion or from gonorrhœal virus, the history will give us some clue as to the real nature of the condition present. For instance, if the hymen is intact the chances are that the disease must be

tubercular. If the illness began subsequent to miscarriage the chances are that the disease is not tubercular, but it is only by a careful attention to details that a correct diagnosis can be made. Tubercular appendicitis will be rarely met with.

Malignant Disease of the Peritoneum. In malignant disease of the peritoneum the temperature is not, as a rule, elevated to such an extent as it is in tubercular peritonitis. Though the tongue is red and glazed the teeth are not covered with sordes. The skin usually has the faded leaf appearance and a crepitation can frequently be made out as a consequence of the attrition of the little pendulous grape-like bodies that hang free in the serous fluid filling the cavity of the peritoneum. I consider this crepitation as a valuable diagnostic sign of cancerous disease of the peritoneum.

Papilloma of the Ovary. In papillomatous disease of the ovary there is, as a rule, no elevation of temperature. A tumour can be made out and can readily be diagnosed as tumour of the ovary. Free fluid will be found present in the abdominal cavity. Operation is therefore undertaken for ovarian cyst. It will sometimes be impossible to differentiate between papilloma of the ovary and chronic tubercular peritonitis of the ascitic form.

Ectopic Gestation Subsequent to Rupture of the Sac. In one case I found symptoms closely simulating an ectopic gestation. Uterine hemorrhages after having missed a period, pains in the breasts, sudden pain in the abdomen, boggy, indefinite mass in the pelvis and free fluid in the peritoneal cavity. When peritonitis sets in, as a consequence of the rupture of a tubal pregnancy, it may be impossible to make a differential diagnosis between this condition and tubercular peritonitis.

Ovarian Cyst. In many of the cases an ovarian cyst may be mistaken for encysted tubercular peritonitis and *vice versa*. Amenorrhoea, enlargement of the abdomen, absence of fever, and evidences that the fluid has become encysted, will make it impossible for anyone to say whether the case is one of ovarian cyst or encysted tubercular peritonitis.

Chronic Appendicitis. Appendicitis may closely simulate chronic tubercular peritonitis and it is only after the abdomen has been opened that a correct diagnosis can be made.

ORGANS FOUND AFFECTED. In the cases tabulated below the conditions found at the operation are given. The reader can easily scan them over for himself. It will be found that there is a great deal of repetition and nothing is found there that is not included in the original definition of the disease.

SUBSEQUENT HISTORY. The number in good health after operation is 14; in fair health, 4; in poor health, 1; number without subsequent history, 9; making in all 28. There were 13 deaths: 6 died of phthisis pulmonalis; 1 of tubercular laryngitis; 1 of acute pneumonia; 1 of cerebral tuberculosis; 4 shortly after operation.

SUMMARY. One is bound to confess that but little more is known of this disease than was known years ago. No advance has been made. Many theories have been advanced as to the effect of operation, the surgeons have puzzled their brains to determine the exact manner in which surgical operation benefits the patient. Some have stated that it is the entrance of air; others that it is the increased congestion of the peritoneum produced (but it seems as if increase of congestion is almost impossible as the intestines are already so loaded with blood); others claim that it is the mixed infection that is introduced. The physicians state that we are "barking up the wrong tree," that surgical operation has no effect whatever, that patients do just as well without surgical interference and make as rapid and as complete recoveries. They state further that these recoveries are not influenced by the administration of drugs.

After everything is taken into consideration, we are forced to the conclusion that there is an inherent tendency in the tuberculous patient to cure himself. Something seems to act on him like the breezes on the surface of the water purifying the depths below. But our research does not appear to have brought us any nearer to a solution of the "mystery," to a knowledge of what that "something" is.

All the cases that have come under my care are not included in the table. I have treated others "without" surgical interference and am free to admit that the results have been satisfactory. As a surgeon, however, I prefer to operate on such cases as I still have a lingering belief that convalescence is somewhat hastened thereby. This belief may be an erroneous one.

TUBERCULAR DISEASE AFFECTING THE INTESTINAL WALL.

We have now to speak of tubercular disease affecting the intestinal wall. In the table three cases of this kind have been noted. The portion of the intestinal wall affected in two of the cases was the omega flexure of the colon; in one case the small intestine was the site of the disease. In two other cases seen on which no operation was performed, the omega flexure was also the site of the disease, so that it seems as if tubercular disease is particularly prone to affect this part of the bowel. One of my patients had been fighting against tuberculosis for years.

Symptoms.—The symptoms produced by the deposit of tubercle

No.	Book No.	Name.	Age.	Doctor.	Family History.	Symptoms.
1	10	Mrs. K	36	J. Ross, Sr.		Rapid enlargement of abdomen. Facies ovariana ; shooting pains.
2	11	Mrs. C.	35	—Wilson		Sudden pain on left side of abdomen ; swelling of abdomen ; sickness at stomach ; bowels move every other day.
3	18	Miss B.	16	L. G. McKibbon.	Mother died of tubercular laryngitis.	Thin, emaciated ; temperature and pulse elevated ; gradual enlargement of abdomen ; free purgation reduced it ; increased again ; pain at times ; no oedema.
4	23	Miss P.	32	M. Stalker		Menstruation more profuse, lasting two weeks ; emaciation and anemia ; pain at neck of bladder ; frequent micturition ; chills, night sweats, pain in pelvic region ; no vomiting ; bowels regular.
5	35	Mrs. I.	36	—Shaw		Emaciation ; red tongue, coated in centre ; sordes on teeth, teeth dry ; abdomen began to enlarge Feb., '91 ; fullness and bloating ; loss of appetite ; derangement of digestion ; general weakness ; periodical fever, worse at night.
6	61	Miss D.	23		Mother and father died of phthisis.	Menstruation became profuse ; intra-abdominal pains and pelvic pains ; bloated feeling ; emaciation ; diarrhœa ; vomited in attack of cramps ; went to bed, pain severe ; constant on right side, slight on left, worse at times.
7	82	Mrs. L.	28	G. H. Carveth.		Suffering some time ; after intra-uterine application a chill ; for many years had stiff knee joint, and from old scar evidences of bone disease ; temperature and pulse elevated.
8	90	Mrs. M.	23			

Physical Examination.	Diagnosis.	Date of Operation.	Organs Found Affected.	Result of Operation.	Subsequent History.
Bowel resonance in front and flank. Uterus small. Free fluid in peritoneal cavity.	Between tubercular peritonitis and malignant disease of peritoneum.	Mar. 28, 1890.	Intestines, peritoneum. Bowels glued together. Ovaries and tubes normal. Large quantity fluid present.	R	Died shortly after, from phthisis pulmonalis.
.....	.....	Mar. 28, 1890.	Intestines distended with flatus. Peritoneum and intestines studded with tubercle. Large quantity of fluid. Abscess of right ovary. Haematocele of broad ligament, tarry fluid and pus on puncture. R't tube tubercular.	D	Was in a very bad condition before operation.
.....	Tubercular peritonitis.	June 18, 1890.	Intestines matted together. Fluid. Tubercle of intestines and peritoneum. Washed out. Drained.	R	A sinus for a time; in 1900 patient been married and in good health.
Lungs healthy. Pus in urine. Acid reaction.	Double pyosalpinx.	Aug. 16, 1890.	Omentum, intestines, peritoneum studded. Fallopian tubes filled with pus; not removed. Bowels matted. No fluid. Dry adhesive form.	R	Better for a few weeks; gradually became weaker; bladder symptoms increased; tubercular cystitis; lungs affected; death one year after operation.
Hardness irregularly distributed over abdomen; irregular tympanites; ascites; enlarged veins on abdominal walls.	Between malignant disease and tuberculosis of peritoneum.	Feb. 26, 1891.	Peritoneum, omentum, intestines studded; pelvis could not be reached owing to adhesions; encysted fluid; washed out, did not drain.	R	Died one month after; temperature remained elevated; patient gradually weakened.
Hymen intact. Rectal examination, masses to be felt in neighborhood ovaries.	Tubercular.	Sept. 29, 1891.	Ovaries cystic, omentum thickened and dark; recent peritonitis; serum in peritoneal cavity; tubes and ovaries removed; tubercles on walls, fallopian tubes and pelvic peritoneum; tubes not enlarged.	R	Improved in health; married about two years after; no further history.
General peritonitis chronic; large masses in pelvis to be felt.	Pus tubes	Mar. 18, 1892.	Peritoneum, intestines studded; tubes thickened to 6 or 8 times natural size and filled with pus; bladder implicated; attempted to remove tube; hemorrhage severe; tissue would not hold ligature; portion of intestine tore during enucleation.	D	Operation very difficult; died two days after operation.
.....	Tubercular peritonitis.	May 17, 1892.	Peritoneum thickened and studded with tubercle; parietal peritoneum about $\frac{1}{4}$ inch thick; intestines vascular rough and granular and matted together; no fluid; dry adhesive form.	R	Went home June 2, '92, and have no further history.

No.	Book No.	Name.	Age.	Doctor.	Family History.	Symptoms.
9	165	Mrs. S.	35	.....	.....	Ascitic fluid in peritoneal cavity..
10	219	Mr. D.	14	M. Wallace .....	.....	Been ill six weeks ; pains in abdomen, diarrhoea ; temperature elevated every night ; night sweats ; commencing cough.
11	222	Mrs. H.	48	H. H. Moorehouse .....	.....	Been tapped six years previously and again recently.
12	270	Mrs. M. F ...	31	J. R. Stone	Husband died of phthisis.	Menstruation always regular until nine months ago, when attack of indigestion she thought ; five weeks bloated twice her natural size ; missed one period ; following month unwell and flowed steadily 2½ months ; then unwell every two weeks until six weeks previous ; since then seen nothing ; leucorrhoeal discharge ; steady, dull, aching pain region right ovary ; sharp pain both limbs.
13	275	Mrs. R.	26	.....	.....	Misplacement of womb had been diagnosed ; elevation of temperature, 105½ for few days, and then dropped to normal ; supposed to have had typhoid fever with night sweats and chills.
14	279	Mrs. H.	33	A. R. Gordon ....	.....	.....
15	292	Miss R.	32	J. Thorburn	Father and mother died of phthisis.	Menstruation irregular ; flooding ; constant pain on right side ; feverishness and sickness at stomach ; pulse elevated ; ill some weeks ; several attacks of hæmoptysis ; scars of two or three tubercular abscesses over ribs ; one sinus re-opens at intervals.
16	299	Mrs. L.	32	G. S. Cleland ..	.....	Pain in abdomen ; temperature elevated for some time ; someone diagnosed as ectopic gestation.

Physical Examination.	Diagnosis.	Date of Operation.	Organs Found Affected.	Result of Operation.	Subsequent History.
		Apr. 29, 1893.	Operation performed without anaesthetic; pains for a moment, but after peritoneum reached this ceased; large quantity of fluid evacuated; peritoneum and intestines studded.	R	Left hospital May 20, '93, and have no further history.
	First thought it was la grippe; then tubercular peritonitis.	Feb. 23, 1894.	Peritoneum fully one inch thick; intestines adherent; impossible to wash out.	R	Is perfectly well.
Mass felt on right side, thickened and tympanic; on left side dullness on percussion; evidently fluid encysted.	Encysted tubercular peritonitis.	Mar. 2, 1894.	Incision median line and found peritoneum very much thickened; impossible to enter abdomen through front owing to intestinal adhesions; another incision to left and fluid drained off.	R	Wound never healed, and patient died six weeks after operation.
Uterus retroflexed, enlarged and low down.	Pus tube, or abscess of ovary, right side.	Sept. 20, 1894.	Omentum glued down in front; peritoneum studded with tubercle; intestines adherent to intestine; removed nothing.	R	Good recovery; has since married but had no children; is quite well.
	Probably tubercular peritonitis.	Oct. 12, 1894.	Omentum firmly adherent to parietal peritoneum; no fluid; of the dry adhesive form.	R	Have been unable to trace subsequent history, but when patient left hospital the temperature had reached normal limit.
		Jan. 7, 1895.	Stomach adherent over upper surface; stomach wall covered by tubercle; enlarged lymphatic glands behind stomach; other portions of peritoneum studded.	R	Subsequently suffered considerably from gas; in November, 1901, is stout and quite well; has never been sick since operation.
Tender to touch over abdomen.		Feb. 21, 1895.	Old cheesy cyst of hydatid of Morgagni size of walnut; both tubes club-ended and filled with cheesy material; ovary healthy; evidences old tubercular disease in pelvis.	R	
Free fluid in peritoneal cavity; abdominal wall thickened, and peculiar "far-away" feeling to peritoneum.	Tubercular peritonitis.	Mar. 30, 1895.	Omentum firmly adherent beneath surface, pressed to one side; hole broken through and fluid removed; peritoneum studded. Washed out and drained.	R	Had pneumonia in lower lobe of right lung; two or three years afterwards she looked the picture of health; in interval husband died of phthisis.

No.	Book No.	Name.	Age.	Doctor.	Family History.	Symptoms.
17	319	Mrs. B	38	T. S. Wiley		
18	320	Miss E.	22	R. A. Corbett		Ill for 12 months; looked like patient in last stages of septi-cæmia or one suffering from tuberculosis.
19	402	Miss M.	22	M. Wallace		Temperature elevated; good deal of pain.
20	444	Mrs. B.	49			First diagnosed by someone as fibroid tumour, and electricity used.
21	485	Mrs. P. (an Italian)	30	W. J. Fletcher		No accurate history of menstrua-tion; pain for some time.
22	535	Miss B	22			Menstruation always regular and normal; never ill until twelve weeks previous; soreness upper part of abdomen, and dull, heavy pain; pain more intense, sharp, and lower down; had to walk in a stooped position; pain worse in left than right side; confined to bed; abdomen swollen; weight of bed clothes painful.
23	597	Miss C.	20	A. E. McColl	Lived in same house with sister-in-law who died of phthisis.	For some time trouble in chest; localized pneumonia; abdomen then swollen and swelling painless; fluctuation; hectic flush in cheek.

Physical Examination.	Diagnosis.	Date of Operation.	Organs Found Affected.	Result of Operation.	Subsequent History.
.....	Either abscess of right tube or ovary, or localized tubercular peritonitis.	June 27, 1895.	Both coils of intestine adherent to one another; tubercular nodules through parts, also cul-de-sac of Douglas studded; reddish colored fluid in peritoneal cavity.	R.	After operation was up and around and doing nicely, but one year and a-half after operation died from pulmonary phthisis.
.....	Tubercular peritonitis.	July 12, 1895.	Intestines, pelvic and parietal peritoneum studded; washed out, drained.	R.	In spring of '99 got a wetting and had attack inflammation of lungs; died March, 1899; up to this time had improved; was fleshy and quite regular menstruation.
Mass towards left side of uterus; some indefinite thickening right side.	Pus tubes or tubercular disease in pelvis.	May 27, 1896.	Peritoneum, intestines and omentum; tubercular mass in pelvis.	R.	Never been well since although working; an abscess developed in side afterwards; this was opened and has almost closed again.
.....	Tubercular peritonitis.	Aug. 18, 1896.	Peritoneum and intestines; large tubercular mass filling pelvis; large quantity ascitic fluid; washed out, abdomen sponged; not drained.	R.	
Uterus towards right side; large mass in cul-de-sac of Douglas fluctuating extended up to left side of uterus as well as to right and behind.	Obscure.	Jan. 27, 1897.	Omentum attached to uterus in front; mass on left side firmly adherent to rectum; during peeling process perforated; degenerated hydrosalpinx, and ovary with pus removed on left side; on right ovary and cyst firmly imbedded in adhesions; another perforation when removing right tube; all over intestines and peritoneum were tubercles; closed perforations; washed out.	R.	Operation extremely difficult; patient made a good recovery.
.....	Tubercular peritonitis.	June 8, 1897.	Omentum $\frac{3}{4}$ -inch thick; everything matted together; bowel torn through; wall of bowel like a piece of tissue paper, studded with tubercle.	D.	Recovered from operation, but disease seemed to progress; temperature became subnormal on June 25th, remained so until 30th, when elevated to normal, then subnormal and she died July 2, 1897; no record of condition of lungs.
.....	Tubercular peritonitis.	Dec. 9, 1897.	Large quantity fluid; washed out, sterilized water; allowed air to enter, and placed drainage tube.	R.	In Jan. 3, 1898, doctor states patient sits up most of time; sinus is closed except small opening about $\frac{1}{4}$ inch deep; Nov. 19, 1901, patient in perfect health.

No.	Book No.	Name.	Age.	Doctor.	Family History.	Symptoms.
24	619	Miss A	22	F. Oakley.....	Mother had been fighting against tuberculosis for years. Had several hemorrhages from lungs.	Always well until pain in abdomen and feeling of bloating; enlargement of abdomen.
25	622	Miss W	19	W. J. Fletcher		Menstruation regular until a few months previously, when amenorrhoea came on; loss of appetite, emaciation, enlarged abdomen.
26	640	Mrs. W. J....	37	F. E. Godfrey.....		
27	658	Miss J.	22	J. C. Smith		Ill nearly three years; diminution of menstruation, pains in abdomen, fever.
28	666	Mrs. W. C. C	34			Menstruation profuse for some months; a year previously severely ill for several months; illness unexplained.
29	679	Mrs. P	22			
30	694	Miss S.	32	Jennie Gray ...		Menstruation ceased; abdomen enlarged; weakness and intra abdominal pains; no perceptible elevation of temperature.
31	735	Miss F	25			Menstruation recently excessive; pelvic pains; anaemia.

Physical Examination.	Diagnosis.	Date of Operation.	Organs Found Affected.	Result of Operation.	Subsequent History.
Free fluid in peritoneal cavity; temperature somewhat elevated.	Tubercular peritonitis.	Jan. 28, 1898.	Peritoneum, intestines, ovaries, tubes, uterus, all studded; large quantity fluid removed; small rubber drainage tube in cul-de-sac of Douglas.	R.	Made a good recovery, and remains in perfect health.
Fluid free in peritoneal cavity; hectic, lips dry, teeth dry; tongue smooth and red.	Tubercular peritonitis.	Feb. 1, 1898.	Intestines and peritoneum studded; quantity of fluid; washed out, allowed air to enter freely, and drained.	R.	Reecovered from operation and left hospital improved; lungs became affected with tubercle, and she died of phthisis.
Hard mass in abdomen; a year afterwards increased and abdomen enlarged	Either tubercular or papillomatous.	Mar. 14, 1898.	Hard mass here and there produced by adhesions of intestine to intestine and omentum; quantity of fluid; washed out, but did not drain.	R.	Recovered from operation, but trouble returned, and she died in about five months afterwards.
Abdomen enlarged; mass on left side opening from vagina into abscess sac; this abscess had been opened by a doctor, and drained; another mass above and not communicating.	Tubercular pyosalpinx.	May 10, 1898.	Intestines and peritoneum studded; large pus tubes on left side.	R.	Patient left hospital June 5th feeling fairly well; in December began having cerebral convulsions; died Jan. 1st, 1899.
.....	Double pyosalpinx.	May 26, 1898.	Intestines, peritoneum and fallopian tubes studded; tubes filled with pus; were not removed.	R	Left hospital and have no further history.
Small tumor on right side of uterus, evidently cystic.	.....	July 2, 1898.	Intestines adherent to one another; peritoneal cavity obliterated; tumour of tube and ovary on right side studded with tubercle; did not remove; tissues friable.	R	No further history.
Nodules felt and free fluid in abdominal cavity.	Between tubercular disease and papilloma of ovary.	Sept. 2, 1898.	Omentum firmly adherent ant. abd. wall; intestines and peritoneum studded; fluid cyst of right ovary; tubercular nodules on left side.	R	Uninterrupted recovery; since, has had inflammatory condition, one wrist and knee, probably tubercular; these have subsided and general health very fair; for years has suffered from epileptic convulsions.
Nodule near fundus uteri, supposed to be small fibroid.	.....	Dec. 7, 1898.	Cyst of right tube, tube and ovary glued together; cheesy mass near fimbriated end of tube; appendix running into ovary; tubercular nodules on peritoneum over uterus.	R	Menstruation ceased; Now, 3 years after operation, patient in good health, although not robust.

No.	Book No.	Name.	Age.	Doctor.	Family History.	Symptoms.
32	777	Mrs. L	29	.....	Father died acute pneumonia.	.....
33	788	Mrs. E	26	.....	.....	.....
34	905	Miss S	22	.....	.....	Hectic; supposed low fever; abdomen enlarged.
35	907	Mrs. C . . . . .	.....	.....	.....	Abdominal pain, supposed to be due to tear; trachelorrhaphy and curettage done; no better; elevation of temperature.
36	925	Miss H	16	J. Guinane. . . . .	.....	Abdominal pain; suffered intensely; vomiting.
37	951	Miss C	19	T. S. Wiley . . . . .	.....	Indefinite pains in abdomen; abdomen; enlarged; emaciated.
38	988	Mrs. J. D. H.	36	W. Lehman . . . . .	.....	Indefinite pain in abdomen; slight elevation of temperature; sharp attack of inflammation with temperature elevated.
39	994	Miss H	22	A. M. Baines. . . . .	.....	Bloating, pains on left side, some elevation of temperature, pallor of skin and redness of tongue; no amenorrhœa.
40	997	Mrs. J. W.	42	.....	.....	Indefinite pelvic and abdominal pains; sensation of bloating; no marked elevation of temperature; appetite poor.

Physical Examination.	Diagnosis.	Date of Operation.	Organs Found Affected.	Result of Operation.	Subsequent History
.....	.....	Mar. 31, 1899.	Fallopian tubes, broad ligaments, peritoneum, and cul-de-sac of Douglas, studded with tubercles; tubes filled with pus and removed.	R	Made an easy recovery from operation and have no further record.
.....	Tubercular peritonitis.	May 1, 1899.	Peritoneum and intestines studded; large quantity of fluid washed out and sponged dry.	R	After operation temperature dropped to normal and she left hospital June 12th; no further history.
.....	Impossible before operation.	April 24, 1900.	Intestines studded with tubercle matted closely together; no fluid; dry adhesive form.	R	Dec. 1901. Is married and feels as well as ever.
Tear in cervix masses in pelvis.	Tubo - ovarian disease, either specific or tubercular.	May 4, 1900.	Intestines, peritoneum, ovaries, tubes and uterus studded; dry adhesive form.	R	Hard masses in pelvis disappeared, and, though not robust, able to do her own housework.
Abdomen distended, sordes on teeth, teeth dry, tongue glazed and red; hectic flush on cheek.	Tubercular peritonitis.	July 10, 1900.	Peritoneum and intestines; adhesions broken and allowed air to enter; dry adhesive form.	R	Improved and able to be out, and at present is getting along nicely; no trouble in the lungs.
Evidence of ascitic fluid in peritoneal cavity.	.....	Sept. 25, 1900.	Intestines and peritoneum studded; large quantity of fluid; washed out with normal saline solution.	R	Doing very well; has gained flesh.
Cyst of left ovary; no evidences of ascitic fluid.	.....	April 8, 1901.	Left ovary and tube inflamed and matted together; ovary cystic and ruptured; right tube and left tube and ovary removed; broad ligaments, peritoneum over cul-de-sac, and both tubes studded.	R	Made a good recovery and continues in good health.
Abdomen enlarged.	Ovarian cyst.	May 20, 1901.	Intestines and peritoneum studded; large quantity encysted fluid in abdominal cavity. Washed out, allowed air to enter and placed drainage tube.	R.	Has improved in health and remains in good health to present time.
Nothing definite to be made out; pain continued.	.....	May 30, 1901.	Intestines and peritoneum studded; small quantity of fluid. Sponged out, air allowed to enter freely; no drainage.	R.	Returned home, menstruation ceased; is pretty well.

TUBERCULAR ULCERATION

No.	Book No.	Name.	Age.	Doctor.	Family History.	Symptoms.
41	539	Mrs. H.	28	.....	.....	Profuse menstruation ; supposed to have la grippe ; pain, discharge from bowels ; pain in pelvis increased by anything that jarred her.

TUBERCULAR DISEASE AFFECTING

42	728	Mrs. L.	32	H. Hunt. ....	.....	Bleeding from rectum for three months.
43	767	Mrs. B.	48	A. W. Nixon.	Fighting for years against hereditary tendency to tuberculosis ; went south several winters.	Taken ill with symptoms similar to indigestion, belching of gas, indifference to food ; emaciated.
44	976	Mr. N.	24	W. J. Fletcher ..	.....	Severe hemorrhage from intestine ; loss of appetite ; feeling of weakness ; skin looked pale.

TUBERCULAR APPENDICITIS AND

45	871	Mr. S.	25	T. S. Wiley.	Supposed attack of appendicitis some months previously ; evidences of peritoneal inflammation.
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OF THE PERITONEUM.

Physical Examination.	Diagnosis.	Date of Operation.	Organs Found Affected.	Result of Operation	Subsequent History.
.....	June 15, 1897.	Roughened nodular surface, about size of silver dollar, over left utero sacral ligament; right meso-salpinx studded with tubercle; tubes patulous; intestinal wall thickened and velvety and reddened from increased injection of blood.	R.	Remained fairly well until 5th week, when another rise of temperature took place; pink flush in each cheek; looked as if disease was going to proceed rapidly; improvement again took place and she returned home. In Aug. 1897, about as bad as ever, soreness and tenderness continuing, also anemia.

INTESTINAL WALL.

Mass in wall of rectum and enlarged glands.	Malignant disease.	Nov. 23, 1898.	Tubercle in wall of rectum producing narrowing of the lumen of the gut; glands in meso-rectum enlarged; one removed for micros. exam.; large caseous gland over abdominal vessels near junction of renal vessels on right side.	R.	Made an uninterrupted recovery, and is now in good health; hemorrhages having ceased.
.....	Nervous dyspepsia, but not quite clear; afterwards intestinal obstruction.	Mar. 7, 1899.	Tubercular stricture high up in rectum, just over promontory of sacrum; tubercular nodules over other parts of intestinal canal; colotomy.	D.	Patient left the table in a very weak condition; bowel opened next morning. She only lived a few days.
Small mass to be felt in left iliac region.	.....	Dec. 12, 1900.	Glands in meso-rectum enlarged throughout the whole of mesentery of omega-flexure up to descending colon; wall of rectum much thickened and studded with tubercle.	R.	Back at work again; in fair health.

ULCERATION OF ASCENDING COLON.

Mass to be felt on right side, neighbourhood of appendix.	Chronic appendicitis with probable pus formation.	Dec. 20, 1899.	Appendix bound along bowel; bowel mass of tubercle. For about 18 inches along ilium spots showing intra intestinal ulcers; ilium studded, other intestines not infected.	R.	Recovered from operation but succumbed in a few months from tubercular laryngitis.
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at a given point in the intestine are, intestinal colic accompanied by irregular hemorrhages from the bowel. The patient becomes blanched as a consequence of the loss of blood, weakness is marked; they become somewhat emaciated and display a great indifference to food.

Physical Examination.—A small mass can generally be made out by examination under an anaesthetic.

Diagnosis.—The diagnosis lies between tubercular stricture, malignant stricture and syphilitic stricture. It is impossible to make a differential diagnosis between a malignant and tubercular stricture until after the abdomen has been opened. Syphilitic stricture, occurring low down, can usually be more readily made out. One of the cases I have recorded was supposed to be suffering from nervous dyspepsia until symptoms of acute intestinal obstruction set in.

Organs found affected.—A mass of tubercle was found in the wall of the bowel producing narrowing of its lumen; the glands in the mesentery were enlarged. In one case an old cheesy gland was found high up over the abdominal vessels. In one case tubercular nodules were found in outlying districts surrounding the main tubercular mass. The wall of the bowel near the seat of the tubercular deposit was much thickened.

Results.—One patient died as a consequence of acute intestinal obstruction. Colotomy was done but, unfortunately, too late. The other two cases made an uninterrupted recovery. Surgical interference gained the credit but, I believe, had nothing whatever to do with the improvement.

TUBERCULAR APPENDICITIS AND ULCERATION OF THE ASCENDING COLON.

One case of tubercular appendicitis and ulceration of the ascending colon is given in the table. This condition is rare. The symptoms were those of an attack of appendicitis, abdominal pain localized in the right iliac fossa, rigidity of the right rectus muscle, tenderness on pressure, elevation of pulse and temperature.

Physical Examination.—A mass to be felt in the right side in the neighborhood of the appendix.

Diagnosis.—The diagnosis in all such cases must lie between chronic appendicitis, with a probability of pus formation, and tubercular peritonitis. At the operation the situation of the ulcers could be readily made out, the appendix was bound down and appendix, caecum and ascending colon were studded with masses of tubercle. The patient, it may be noted, died within a few months from tubercular laryngitis.

TUBERCULIN IN THE DIAGNOSIS AND TREATMENT OF TUBERCULOSIS.

By H. C. PARSONS, B.A., M.D., L.R.C.P., M.R.C.S.,
Professor of Pathology in the Woman's Medical College, Toronto.

HOWEVER suggestive may be the symptom group presented by an early case of pulmonary tuberculosis, failure to demonstrate the tubercle bacillus in the sputa postpones a positive diagnosis. The presence of the organism in discharges implies a full development, degeneration, and ulceration of the tuberculous focus, so that during this development, that is in the early stage of the disease, our most valuable diagnostic measure fails us; and though the presence of tuberculosis is not proved, it is not disproved.

If this difficulty exist in disease of organs having a natural outlet for their discharges, how much greater the obscurity in those not accessible from without, as bones, joints, serous sacs, glands, etc.

Of this, A. Fränkel,⁽¹⁾ says, "it is evident that the practitioner has an urgent need in such cases of some diagnostic resource which will as far as possible take the place of the actual demonstration of the bacillus." "Such a resource"—he adds—"is found in Koch's tuberculin."

The condemnation heaped upon tuberculin after its apparent failure as a curative agent was so sweeping that any other virtue it possessed was for a time overlooked. Its selective power as applied to cattle was later recognized, and the analogy presented by human tuberculosis invited a similar application for diagnostic purposes, and today there is substantial evidence as to its utility in this respect.

Vaughan,⁽²⁾ speaking of tuberculin says "here is a body that has

(1) Albert Fränkel, *Zeitschrift für Tuberculose und Heilstatistik* and *Journal of Tuberculosis*, Vol. iii, No. 1.

(2) Vaughan, *20th Century Medicine*, Vol. xiii, p. 104.

(3) Trudeau, *Medical News*, May 29th, 1897.

(4) Von Jaksch, *Verhand der Congress*, and *Junere Med.* 1891, (quoted by Trudeau).

(5), (6), (7), (9), quoted by Trudeau.

(8) Heron, *Journal of Tuberculosis*, Vol. iii, No. 4.

(10) Elder, *Montreal Medical Journal*, Vol. xxx, Oct. 1901.

(11) Casselberry, *Medical News*, Oct. 12th, 1901.

(12) Otis, *Medical Record*, June 17th, '99.

(13), (14), (15), (16), quoted by De Renzi and by Trudeau, *Medical News*, May 29, 1897.

(17) Kabler and Wien, *Klin Wochen*, Nov. 30, 1891, (quoted by Trudeau).

(18) Linoir *Progrès Med.*, Nov. 30, 1893, (quoted by Trudeau).

(19) *Brit. Medical Journal*, Feb'y 21, 1891, (quoted by Trudeau).

(20) *Deutch Archiv und Klin Med.*, 1894, (quoted by Trudeau).

(21) Quoted by Heron, *Journal of Tuberculosis*, Vol. iii, Nov. 4, 1901.

(22) Moorehouse, *Cleveland Med. Jour.*, Aug., 1900.

(23) Maragliano Berlin, *Klin Wochen* Nov. 19-20, 1896, (quoted by Trudeau).

(24) Goetsch, *Deutsch Med. Wochen*, Nov. 25, 1901, and *Journal of Tuberculosis*, Vol. iii, No. 3.

(25) *Journal of Tuberculosis*, Vol. iii, No. 3.

a specific action, a chemical substance, by the effects of which one can distinguish a tuberculous from a non-tuberculous individual."

Franckel⁽¹⁾ draws attention to the striking effects produced by tuberculin in true lupus and the absence of such in erythematous lupus. Trudeau⁽³⁾ speaks of the accuracy of the test in cattle, and in other animals artificially inoculated—as shown by post mortem examination—and thinks it remarkable that the application of its diagnostic use in man should have been so long neglected. Von Jaksch⁽⁴⁾ attributes to it a higher diagnostic value, and similar experience is reported by Reazi,⁽⁵⁾ Grasset,⁽⁶⁾ Vedel,⁽⁷⁾ Heron,⁽⁸⁾ Maragliano,⁽⁹⁾ Moorehouse, Elder,⁽¹⁰⁾ Casselberry,⁽¹¹⁾ Otis⁽¹²⁾ and others.

Peiper,⁽¹³⁾ Reitzkow,⁽¹⁴⁾ Senn⁽¹⁵⁾ and Verueuil,⁽¹⁶⁾ are reported as having found it unreliable, and it must be admitted that there are instances in which the reaction has failed in undoubted cases of tuberculosis, but the weight of evidence is in favour of the test and its value in diagnosis. Possibly when certain points in technique are settled, as for instance a standard concentration of tuberculin, and a more uniform dosage, an explanation of these errors may be forthcoming.

The element of danger in the use of tuberculin appears to have proved a barrier to its more general acceptance. There are two questions. Is there any immediate danger as a result of the injection? And secondly is there a risk of aggravation or dissemination of the disease?

Both have a certain amount of excuse for their existence. The early cases treated with tuberculin were unselected; the dose was large and frequently repeated, under which the reactions were violent and the strength of the patients severely tried. Such are now carefully avoided. The cases are selected, and in the earliest stage of the disease; in advanced cases the test is unnecessary, as the diagnosis is made clear by other means; the dose is small, just sufficient to produce a reaction, and one reaction is all that is called for. No unfortunate results have been recorded.

Regarding the aggravation and dissemination of the disease. Shortly after the introduction of the tuberculin treatment when large doses and violent reactions were in order, some of the cases died during the course of the treatment. At autopsy Virchow reported the finding of numerous apparently new foci of disease at a distance from those recognized during life, these were interpreted as evidence of the dissemination of the disease. A condition of softening was also described in the tissues about the older tubercular areae, which was construed as having broken down the natural barrier of encapsulation set up by

nature, and a resulting liberation of the bacilli to invade the surrounding tissues.

As a more definite knowledge was gained of the local changes produced by tuberculin, these disseminated lesions were, and are now looked upon as local reactions about foci of disease unrecognized during life, and not as any evidence of a new infection. Broden's observations on the use of tuberculin in peritoneal tuberculosis of dogs, (*Archives de Med. Exper.*, Vol. x, No. 1, 1899, quoted by Trudeau), supplies experimental confirmation in favor of this.

Tuberculin is regarded as the specific chemical poison of the bacillus tuberculosis. Certain rules govern the production of tuberculin, virulent tubercle bacilli are used; the tubercle bacillus substance is required; the presence of tubercle bacilli intact results in the formation of abscess and is to be avoided; the centrifuge has superseded the porcelain filter, as it was found that the latter withheld, in addition to the bacilli, certain other substances considered necessary to the filtrate. The object is to obtain an extract of the bacilli. A concise description of the production of tuberculin is given in *20th Century Medicine*, Vol. xiii.

As to dosage.—The fact that doses from 25 to .2 milligrammes of tuberculin have been employed for diagnosis, and with equally satisfactory results, would imply that the concentration of the substances in use at the present time varies in a marked degree. Moorehouse, in his series, gave $7\frac{1}{2}$ mgm., Elder $2\frac{1}{2}$, Casselberry 3 to 6. In order to avoid violent reactions in the more susceptible, Trudeau advises that the initial dose be small. 1 mgm. is given, and if no result, 2 mgms. are given after an interval of 2 or 3 days, and a third injection of 3 mgms. if necessary. This is the maximum dose.

The patient is kept under observation for three or four days prior to the administration of tuberculin; the temperature must be running a normal course.

The injection is made with every antiseptic precaution, beneath the skin of the back, and the patient confined to bed, temperature and pulse being recorded every 2 hours for 24 or 36 hours.

The reaction occurs in from 6 to 32 hours. It is characterized by an elevation of temperature, malaise, sensations of chilliness, but rarely a chill, headache, nausea, sometimes vomiting, there is frequently also a moderate amount of pain according to the seat of the lesion.

The pulse rate is proportionate to the rise of temperature. The temperature may range from 100 to 104. The duration of the reaction, as shown by the temperature curve, varies from 20 to 30 hours.

The local reaction, as seen in lesions, on or near the surface, consists of redness, swelling, pain and tenderness and elevation of surface tem-

perature. In pulmonary cases, pain in the chest has been noted in some in others an increase of physical signs, which, however, rapidly disappear.

This reaction is explained by a certain affinity possessed by tuberculin for tuberculous foci (Fränkel). Trudeau describes tuberculin as a partly specific irritant, both to tuberculous foci, and to the susceptible organism in general. The local reaction is an active hyperæmia about the focus of disease such as one sees in the initial stage of inflammation. Baumgarten describes it as an exudative inflammation in the vascular tissue about the tubercles.

In a well marked reaction the changes are so profound that it would seem hardly possible that they result from the toxin contained in the minute dose of tuberculin.

It is shown by Kabler ⁽¹⁷⁾ and Lenoir ⁽¹⁸⁾ that the urine secreted during the reaction contains albumose in greater quantity than is represented by the injection material. It is further known that from caseous tuberculous material may be obtained albuminous substance which give the tuberculin reaction. (Crookshank, Herroun, ⁽¹⁹⁾ Matthes.) ⁽²⁰⁾ The deductions from this are, that the tuberculin by its action upon the tuberculous foci sets free toxins stored up within them, which, by their action, either alone or in conjunction with those of the tuberculin, give rise to the general reaction.

In bovine tuberculosis Fränkel shows that in 8,000 tests the error was between two per cent. and three per cent. The proof of the test was the gross appearance of the organs at autopsy. Fränkel thinks that in the absence of gross lesions, nothing short of a microscopic examination, especially of the lymph glands, can be considered absolute proof.

A synopsis of a few series of cases will serve to show the results in man. France ⁽²¹⁾ reports 55 tests; 45 were positive, 10 negative. 34 of the former eventually died, and 29 were submitted to autopsy and all showed active tuberculosis. Five of the negative cases died and post-mortem examination failed to show any trace of the disease, the remaining five are living and well. Moorehouse ⁽²²⁾ reports a positive result in 13 cases, (12 suspected and one undoubted case) of tuberculosis.

In 14 cases, Trudeau, ⁽³⁾ seven gave the reaction, seven were negative. Casselberry reports nine cases, four positive, five negative. The subsequent records of these (23) cases are given and appear to prove the accuracy of the test.

Elder ⁽¹⁰⁾ gives results of eleven tests, four were positive, seven negative. Three of the four positive were proven tuberculosis by examination of the tissues after operation, the fourth refused operation. Of the seven negative, three were cases of enlargement of the testicle, which later cleared up under antisyphilitic remedies. Two were undoubted cases of

tuberculous peritonitis, as subsequently proved at operation. One case of tuberculosis of the elbow joint and one of tuberculous adenitis did not give the reaction. The writer, however, questioned the value of the tuberculin used in these last two instances

Maragliano ⁽²³⁾ and Guttsdat ⁽³⁾ report reactions in 9 per cent. and 8 per cent. respectively of apparently healthy persons. In view of the present knowledge of tuberculosis and its behavior, its talency in many cases, and the post-mortem findings in persons dying of various diseases, and in whom tuberculosis was not suspected, it is not surprising that such results are obtained from time to time. Again it is said that cases of carcinoma, sarcoma, syphilis and actinomycosis have reacted to tuberculin, but in these the possibility of associated tuberculous disease was not excluded.

Of this Trudeau says: "Before condemning the test as at fault when reaction occurs in apparently healthy individuals, it should be borne in mind that autopsies made on persons dying of other diseases show some unsuspected tuberculous focus to exist in from thirty to forty per cent."

In summing up the results of his observations Elder says that the reaction does not appear to be constant, even when tuberculosis is undoubtedly present, but contra, in no case did he get any reaction, when tuberculous, so far as could be determined, was not present.

The only unequivocal proof of the correctness or otherwise of the test is a complete autopsy with special reference to the lymph glands (Fränkel). This being true there will necessarily be an element of doubt in some cases of human tuberculosis, in the absence of more searching investigation than clinical methods afford.

Apart from the diagnostic use of tuberculin evidence as to its curative value is on the increase, this is both experimental and clinical, and, though not generally accepted, has made such marked strides of late that it is well worthy of careful study and trial.

The advocates of tuberculin as a curative measure are unanimous in condemnation of the course followed in earlier days, when large doses were given and their violent reactions produced, and these in unselected cases.

These points are established, that the cases should be carefully selected; the temperature should be normal for 24 or 48 hours previous to the administration of a dose; when the injection is followed by a rise of temperature the dose should be diminished rather than increased, as was the former custom; mixed infection is a contraindication. The injections are made beneath the skin of the back. The initial dose is 0.05 mgm. This is rarely followed by a reaction; should there be a reaction the dose is reduced. Koch repeats the injection every second day, gradually increasing the dose, but avoiding elevation of temperature.

If an elevation of temperature should occur, further treatment is delayed till there is a return to normal. He advises a continued increase in dose till 20 mgm. is reached. His experimental work with T. R., following the above course, has proved remarkably successful, he moreover finds that in tuberculous guinea pigs the most striking results are obtained when the treatment is begun shortly after the inoculation, not more than two weeks. He holds that the same results may be looked for in the treatment of early tuberculosis in man.

Heron⁽⁸⁾ reports 57 cases, 51 of pulmonary tuberculosis, 6 of lupus vulgaris. Old and new tuberculin were used. Of the pulmonary cases, many were lost sight of after leaving the hospital, but 10 cases were well and working 7 years later, 3, 3 years later, 3 for two years, and others were known to be well for a period of a few months to 18 months after treatment.

The cases of lupus did well up to a certain point, but suffered relapse.

Goetsch⁽²⁴⁾ reports his results in the treatment of 224 cases of pulmonary tuberculosis. The diagnosis was made by demonstration of the organisms in 89, by reaction to tuberculin in 135; 12 proved unsuitable and treatment was discontinued. At the time of publication 175 cases had been discharged. Of these 125 were cured, in the remaining 50 the treatment had been interrupted and recovery was only partial.

The average period of treatment in 125 cases was 198 days, the minimum 50 days and the maximum 791 days. Injections were given twice weekly. The first dose was small and gradually increased. Reactions were avoided.

In a note by Prof. Koch who had followed Goetsch's work, mixed infections are insisted upon as barriers to successful treatment. Sprengler, Turbau, Petruschky, Krause, Thorner, Rembold Baudelier are quoted as asserting that in purely tuberculous, non-felerile cases, not too far advanced, the influence of the remedy is favorable without exception. Von Ruck⁽²⁵⁾ also reports very encouraging results.

These results form but a fraction of the evidence in favor of the use of tuberculin.

Tuberculosis is an important subject, a difficult disease to diagnose and combat, these investigators have opened up a new path, or rather cleared the old path of many of its most formidable barriers, and their results are sufficient to warrant a more general use of tuberculin both for diagnostic curative purposes.

CURRENT MEDICAL LITERATURE.

Conducted by A. J. MacKenzie B. A., M. B.

TEMPERATURE EFFECTS

BY a series of experiments reported in *Le Bulletin Medical*, October 16th, it was found that neither a moderate degree of cold nor slight variations in temperature had an influence on the evolution of experimental tuberculosis, but that sudden and considerable changes hastened the course of the infection in a most striking manner.

ALCOHOLISM AND TUBERCULOSIS.

PROF. P. BROUARDEL, speaking at the recent British Congress on Tuberculosis, said: "Alcoholism is the most potent factor in propagating tuberculosis. The strongest man, who has once taken to drink, is powerless against it. . . . Baudran, of Beauvais, has shown that mortality from tuberculosis and from alcoholism are nearly identical. In this connection he obtained the following results:

Deaths from tuberculosis in 10,000 Inhabitants.	Annual consumption of Litres Alcohol per head.
30 to 40	12.47
40 to 50	15.21
50 to 60	14.72
70 to 80	16.36
80 to 90	17.16
More than 90	50.70

Any measures, state or individual, tending to limit the ravages of alcoholism will be our most precious auxiliaries in the crusade against tuberculosis."

The same prominent physician, speaking on another phase of the subject at the same time, said: "As for my personal experience at the Morgue in Paris, where I frequently make necropsies on accidental deaths, I can state that in half the cases if, the person on whom the necropsy is made has lived in Paris for about ten years, I find healed tuberculous lesions, either in the form of cretaceous transformation or fibrous cicatrizations. I may add that it is quite certain that such cases of old people, and those on whom necropsies are held in almshouses, hospitals and the Morgue, have certainly taken none of the precautions

we consider necessary. In spite of often deplorably dirty habits the system has been strong enough to resist the ravages of the disease.

"These anatomical results have also another meaning. These lesions, in the majority of cases are not phthisis in an early stage manifested by small disseminated foci, they are cicatrices of large foci, sometimes of large cavities completely cicatrised. Phthisis, therefore, is curable, even in its most advanced stages."

ON THE GROUPING OF CASES OF PULMONARY TUBERCULOSIS FOR CLIMATIC TREATMENT.

DR. I. Burney Yeo, speaking at the recent British Congress on Tuberculosis, is reported in the *British Medical Journal* of July 26th as follows:—

"The question put to us in this discussions is: What influence has climate on the treatment of consumption, and how far can cases be grouped for treatment in certain climates?"

The answer to the first part of the question will, I suggest, be that a suitable climate:

(a) Relieves or removes catarrhal conditions accompanying the disease in a number of cases.

(b) It raises nervous and vascular tone.

(c) It increases muscular energy and the ability as well as the desire for exercise.

(d) By rendering an open-air life possible, it increases the aëration of the lungs and diminishes the activity of bacterial agencies, one of the most essential conditions of arrest and cure of the disease.

(e) It improves the tone and promotes the activity of the digestive functions, and so enables the patient to take the large amount of food which is needed to heighten his state of nutrition.

(f) And, finally, it improves the moral and mental state by surrounding the patient with a bright, cheerful and hopeful environment.

Then, as to the answer to the second part of the question, we may, I think, say:

1. That cases seen at the very commencement of the disease, and who are otherwise in good health may be permitted a certain amount of choice in the selection of a climate, provided it allows of many hours being spent daily in the open air, and that they are placed under admittedly hygienic conditions. A choice may be made from climatic conditions of altitude, the desert climate, the inland plateaux of South Africa, the sea voyage for those with a decided liking for the sea, and suitably placed sanatoria.

2. For progressive febrile cases, repose in bed or on a couch at home,

in the best conditions practicable for the free access of air and sunshine to their apartments.

3. For advanced cases, home is best if the conditions of home life are favourable, or the warm marine climates with cheerful surroundings if home life is unfavourable or change is urgently desired.

4. For catarrhal cases warm, soothing climates like Madeira or Tenerriffe are best.

5. For rheumatic or gouty cases of the fibroid or pleurogenic type, dry, marine climates or the desert climate are most suitable.

6. For the so-called "scrofulous cases," if free from catarrh, fairly bracing marine climates; if with catarrh, mild marine climates should be prescribed:

7. For most other moderately advanced cases, with the limitations already mentioned, the climate of the high mountains, above the cloud belt, is the most curative.

I have not had a "hæmorrhagic" group because I do not think it would be a natural one; every hæmorrhagic case must be, in my opinion, considered apart, and, if I may be permitted the phrase, dealt with "on its own merits."

THE COMMUNICABILITY OF HUMAN TUBERCULOSIS TO CATTLE.

IN the *British Medical Journal* for Oct. 26th, Sheridan Delepine, Professor of Pathology, Owens College, Manchester, reports the result of an experiment bearing on this subject, subsequent to Koch's now famous delivery, and with a very different conclusion.

Having learned from previous experiments that cultures of tubercle bacillus vary in virulence to a marked degree, the writer adopted the expedient of mixing several tubercular sputa, representing several types of disease in the human being. These were furnished by the Manchester Consumption Hospital, and consisted of sputa containing bacilli belonging to the following classes: (1) long slender, showing typical metachromatism; (2) thick, staining almost uniformly; (3) short in clumps; (4) short, staining badly.

Four healthy young calves were used. These were not subjected to the tuberculin test, the professor believing that this might affect the value of the results obtained, as the use of this test has probably some immunising effect, decided to rely upon the fact that tuberculosis is a rare condition in young calves, and curiously one of the animals chosen proved an exception to this rule.

The animals were injected then, one directly into the lung, the second subcutaneously, the third was inoculated into the peritoneum, and to

the fourth was given, in two meals, milk containing ten times as much sputum as the others had received by inoculation. Of the four calves experimented upon only two survived long enough to allow definite results to be obtained and these two calves had contracted tuberculosis as the result of the inoculation or ingestion of human tubercular sputa.

The results may be summed up as follows :

First calf, inoculated in the lung with 5 c. cm. of sputum. Death on the sixth day. Generalised tuberculosis not due to the inoculation.

Second calf, inoculated under the skin of the leg with 5 c. cm. of sputa. Death on the sixth day, marked enlargement of a gland at a distance of 5 inches from the seat of inoculation, no other trace of tuberculosis. Living and virulent bacilli found in the affected gland. As these might have been carried from the seat of inoculation and remained alive without actually producing tuberculosis, this experiment is discarded.

Third calf given 50 c. cm. of mixed sputa with its food in one day. Death twenty-six days after the ingestion of this material. No trace of tuberculosis in any organ except the glands connected with the alimentary canal. Virulent tubercle bacilli found in the oesophageal glands.

Fourth calf, 5 c. cm. of mixed sputa injected into the peritoneum. No definite tuberculous reaction sixty-eight days after inoculation. Definite tuberculin reaction sixty-eight days after inoculation. Post-mortem examination two days later showed marked tuberculosis of the peritoneum, extending to the pleura and pericardium. No other organ affected except a few of the lymphatic ganglia connected with the peritoneum.

Inoculation of guinea pigs from the latter two cases verified the virulence of the bacilli present.

In conclusion Professor Owen says : This first set of experiments had only for its object to determine whether human tuberculosis products are infectious to cattle or not ; further experiments are being arranged for with a view of determining the conditions which influence the virulence of human bacilli for cattle and the proportion of recoveries after such infection.

THE CANADA LANCET

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No. 4.

EDITORIAL.

OUR TUBERCULOSIS NUMBER.

WHEN we decided to issue a number of THE LANCET specially devoted to the discussion of tuberculosis in its various aspects, we thought one double number would afford ample space for the contributions arranged for. The field, however, proved larger than we had anticipated, so that we have found it necessary to divide it into two parts. The general aspects of the subject are dealt with in the current issue and the papers dealing with the special aspects will appear in the January number. Tuberculosis is at present attracting the interest of both the profession and the public to so great an extent that we feel amply warranted in placing before our readers a series of papers representing the present status of our knowledge regarding it. We would sincerely thank our contributors for the ready assistance they have given us in producing the number.

CARE OF THE TUBERCULOUS POOR IN TORONTO.

A DEPUTATION of medical men, clergymen, laymen and ladies recently waited on the Toronto City Council to urge the submission of a by-law to the ratepayers to provide \$50,000 for the erection of a hospital for the poor tuberculous patients of the city. Action in the matter has been deferred on several previous occasions awaiting the fulfilment of the promise of the National Sanatorium Association to make provision for this need by building a hospital near the city in which poor patients will be admitted on a 40 cents *per diem* allowance from the city.

Rev. Dr. Eby, of the Anti-Consumption League, accused the Sanatorium Association of having controlled this work for the past five years, with the result that the death rate from consumption in Canada was steadily going up, while it was decreasing in every other country. He conjured up

the terrible spectacle that according to the plans of the National Sanatorium Association the consumptive poor from all parts of the province would be dumped into the city of Toronto to poison the air as that of Muskoka is now being poisoned by the overflow from the sanatorium in that district.

Not to be outdone in fervency and zeal by his reverend brother, the Rev. J. P. Lewis advocated the adoption of a law to compel, forcibly if necessary, the removal of every consumptive patient to an institution where he should remain until cured or decently buried.

Such indiscreet and unnecessarily alarming statements coming from prominent members of a league, the purpose of which is to disseminate *knowledge* of tuberculosis among the public, cannot be too strongly deprecated. Enthusiasm is often commendable, but it should be tempered with common sense and in accordance with at least a rudimentary knowledge of the subject under discussion.

Much has already been done in this province in creating "a scare" as to the degree of contagiousness in cases of tuberculosis under proper management. It is the opinion of the Medical Health Officer of the city, and with it most physicians will concur, that tuberculous patients could be safely received temporarily into isolation wards in our general hospitals until other provision is made for them. Their exclusion has resulted in unnecessary hardship and suffering to these unfortunates and has added to the dissemination of the disease by their being forced to remain in their own homes. We would respectfully suggest to the medical men in the Anti-Consumption League the advisability of acquainting the lay members with a few elementary scientific facts in reference to the spread of tuberculosis before the latter undertake to educate the public. The real dangers from tuberculosis are great and obvious enough without any exaggeration or the conjuring up of imaginary ones.

A DEATH UNDER CHLOROFORM ANAESTHESIA.

THE death, recently, of a patient under chloroform, in the Toronto Western Hospital, was made the subject of an inquiry by a Coroner's jury. The facts brought out at the inquest were, that a private patient, some fifty years of age, had entered the hospital to be operated on for necrosis of the humerus. The anæsthetic was administered by the House Surgeon, under the direction, we are informed, of a member of the hospital staff. From the time the administration began until it ceased, was forty minutes, during which time five drams of chloroform were used. It was administered drop by drop, by the open method. The



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operation had been finished and the anæsthetic discontinued about two minutes, when the patient was noticed to become blanched. All the usual methods of resuscitation were applied, but without avail, death occurring almost at once from cardiac failure. During the administration of the drug no bad symptoms had appeared.

The patient had suffered from an attack of typhoid fever a short time before, and the autopsy showed that Peyer's patches were still swollen. No other gross evidence of disease was found in any of the organs.

An important point in the case was the fact that the House Surgeon was not a registered practitioner, and according to section 53 of the Ontario Medical Act, no unregistered person is eligible to appointment in any public institution or hospital in the province, not supported entirely by voluntary contributions. This regulation, however, has heretofore been more honored in the breach than in the observance, having been commonly interpreted as applying to positions of emolument, and not to unpaid assistants acting under instructions from members of the staff. While not *technically* qualified, the House Surgeon in this case was certainly well fitted by training and experience for his duties. He was an honor graduate of Toronto University, having received the M.B. degree in May last, and had passed the primary and intermediate examinations

of the College of Physicians and Surgeons. He had previously anaesthetized some 100 patients. As a matter of simple justice we feel that these facts might have been placed more clearly before the jury. Moreover, no fault could be attributed to the method of administration, nor to the subsequent treatment. It was apparently one of those unfortunate accidents which occurs from time to time in institutions where large numbers of cases are subjected to anæsthesia, and which no amount of study of anæsthetics, nor their methods of administration, has, so far, succeeded in preventing. The hospital and the House surgeon have been subjected to much adverse criticism in the matter, which the facts and our knowledge of such cases in general, do not warrant. We believe the authorities are right in investigating all such cases to see that no precaution has been overlooked to ensure the safety of the patient, but in the interests of public hospitals and of the profession in general, the greatest care should be taken in getting a verdict that does no injustice to those concerned.

As the Medical Council now require a fifth year to be spent in hospital or laboratory work before a candidate can present himself for the final examination for the Ontario licence, it seems scarcely fair that provision should not be made that will technically qualify such candidates for appointment as hospital interns. We are informed that the matter will be brought up at the next session of the Medical Council, when we trust some such amendment of the Medical Act, as indicated, may be made.

THE MUSKOKA SANATORIUM FOR TUBERCULOSIS.

WE quote the following interesting statements from the annual report of the Medical Superintendent of the Sanatorium, which must be very gratifying to those interested in the institution :

"Of 99 cases treated last year 15 have been discharged apparently cured, and 29 with the disease arrested ; that is, in 15 there is a return to perfect health, while in 29 others there is a relative cure—the general health is quite normal, and there are no subjective symptoms other than perhaps an occasional cough or slight expectoration. Of the 29 arrested cases, 14 gave promise of cure had their finances permitted them to remain, which would mean that 29 out of 99, or almost 30 per cent., could have been apparently cured had a longer stay been possible. The fact that in 44 of 99 patients the disease has undergone more or less complete subsidence is highly satisfactory considering the class of cases treated.

"It is gratifying to note that the average gain in weight is 31 lbs.,

and that there is an average gain of $14\frac{1}{2}$ lbs. in those remaining over three months.

"It is difficult to arouse people to the necessity of sending cases early to secure the best results, notwithstanding the fact that we have shown in previous years that of incipient cases 65 per cent. or over are cured, while of the more advanced cases we may look for permanent results in only a very small percentage, and for these results a very prolonged stay is necessary.

"These 99 cases were classified on admission: Incipient, 224; advanced, 43; far advanced, 32. Such a proportion of advanced and far advanced cases is not compatible with the best results. With our past results becoming more known throughout our Province and Dominion, the people are beginning to realize that consumption can be cured, and we are in receipt of a constantly increasing number of applications. We hope during the coming year we may be able to restrict our admissions still more to the class of cases for which the Sanatorium was established.

"An erroneous idea prevails to some extent amongst the physicians of the Province that our rejection of a patient means incurability. This is not the case. It is our endeavor to select from amongst the applicants those who give greatest promise of improvement, more especially to select those for whom the shortest time seems necessary, so that our beds may be occupied by as many patients as possible in succession. With this object in view our standard of admissions must necessarily vary somewhat from time to time, depending upon the number and physical condition of applicants.

"I would urge that in every possible way we make an earnest plea to the medical profession to use the greatest care in the selection of patients sent for examination. In our endeavor to make our Sanatorium a place where people can recover we cannot admit hopeless cases; and it is a constant source of surprise to our examining physicians and to us here that men and women are sent by their physicians as hopeful cases when their symptoms and physical signs show them to be in an advanced condition. The refusal of these cases is one of the most unpleasant parts of our work, and the consequent disappointment, to say nothing of the needless fatigue and expense to patients coming from a distance, is often almost heart breaking.

Of the 99 discharged patients there were:

Apparently cured	15
With disease arrested	29
With marked improvement	26
Unimproved	20
Failed	8
Died	1 — 99

75 patients gained in weight; average gain, 13 lbs.

12 " lost " " loss, $4\frac{1}{2}$ lbs.

12 " neither gained nor lost in weight.

CLASS II.

44 Patients remaining from one to three months.

Condition on Admission.	Condition on Discharge.						
	Apparently Cured.	Disease Arrested.	Much Improved.	Stationary	Failed	Died.	Total.
Incipient	4	3	2	0	0	0	9
Advanced.	1	5	11	1	0	0	18
Far Advanced	0	1	4	8	4	0	17
	5	9	17	9	4	0	44

Of these patients 32 gained in weight; average gain, $10\frac{3}{8}$ lbs.

" " 6 lost " " loss, 4 lbs.

" " 6 neither gained nor lost.

CLASS III.

55 Patients remaining over three months.

Condition on Admission.	Condition of Discharge.						
	Apparently Cured.	Disease Arrested.	Much Improved.	Stationary	Failed	Died.	Total.
Incipient	9	4	1	1	0	0	15
Advanced	1	14	4	5	1	0	25
Far advanced	0	2	4	5	3	1	15
	10	20	9	11	4	1	55

Of these patients 43 gained in weight; average gain, $14\frac{1}{2}$ lbs.

" " 6 lost " " loss, 5 lbs.

" " 6 neither loss nor gained.

(A maximum gain in weight, $43\frac{1}{2}$ lbs during a stay of 4 months.)

Site of Pulmonary Lesion.

Right lung only affected—	Upper lobe only.....	18
	Lower lobe only.....	1
	Upper and middle lobes.....	7
	Upper and lower lobes.....	8
	Upper, middle and lower lobes ..	6

Left lung only affected—	Upper lobe only.....	5
	Lower lobe only.....	0
	Upper and lower lobes.....	16
		— 21

Involvement of both lungs.

	Right upper lobe.	Right lower lobe.	Right upper and middle.	Right upper and lower.	Right upper, middle and lower.	Total.
Left upper lobe.....	14	0	2	8	4	28
Left lower lobe.....	3	0	1	1	2	7
Left upper and lower lobes.....	21	2	1	5	0	29
	38	2	4	14	6	64

DEFINITIONS OF TERMS EMPLOYED.

Incipient.—Cases in which both the physical and rational signs point to but slight local and constitutional involvement.

Advanced.—Cases in which the localized disease-process is either extensive or in an advanced stage, or where with a comparatively slight amount of pulmonary involvement the rational signs point to grave constitutional impairment, or to some complication.

Far Advanced.—Cases in which both the rational and physical signs warrant the term.

Apparently Cured.—Cases in which the rational signs of phthisis and bacilli in the expectoration have been absent for at least 3 months, or who have no expectoration at all; any abnormal physical signs remaining being interpreted as indicative of a healed lesion.

Disease Arrested.—Cases in which cough, expectoration and bacilli are still present, but in which all constitutional disturbance has disappeared for some time; the physical signs being interpreted as indicative of a retrogressive or arrested progress.

Improved.—Cases in which there has been some marked gain in the condition of the lungs, or in which there has been marked amelioration of the constitutional disturbances. Cases with simply a slight gain in weight are not placed under this term.

EDITORIAL NOTES.

Sixty-two candidates presented themselves at the recent supplemental primary examinations of the College of Physicians and Surgeons of Ontario and thirty-seven in the final.

The Board of Endowment of Trinity University has made an appeal for \$500,000, conditional upon not less than \$250,000 being subscribed by December 31st, 1903. Subscriptions are to bear interest at 4 per cent. up to this time, when the capital shall become payable in instalments. A good beginning has already been made, the following subscriptions having been secured: Rev. T. C. S. Macklem, \$5,000; James Henderson, W. R. Brock and E. B. Osler, \$10,000 each, and Lieut.-Col. Pellatt, \$25,000.

Lieut.-Col. Pellatt has recently given \$10,000 for the erection and equipment of an operating theatre in Grace Hospital, Toronto, and the will of the late W. E. H. Massey bequeaths the twentieth part of a thousand shares of stock in the Massey-Harris Co., Limited, to the Hospital for Sick Children. These are healthful signs of an awakening of public sentiment in Toronto to the needs of our medical charities.

The annual banquet of the Medical Faculty and students of Toronto University was held in the University gymnasium on the evening of Dec. 3rd, and was pronounced an unqualified success. The Dean, Dr. Reeve, announced the intention of the Medical Faculty to erect in the near future a new building on the University grounds for the teaching accommodation of third and fourth year students.

The Faculty and students of Trinity Medical College held their 24th annual dinner at the Temple Café on the evening of Dec. 5th. It was largely attended and was generally acknowledged the most successful in the history of the College. It was strictly a "dry" dinner—a judicious preparatory training, it is thought, to the possible early adoption of prohibition in the province. Mr. A. H. Anderson acted as president and Mr. W. W. Milburn as secretary of the dinner committee.

We are pleased to note that the various hospitals in Toronto have consented to again open their doors to tuberculous patients, who will be

received into special isolation wards. The wisdom and humanity of the decision will scarcely be questioned, and will have a good effect in allaying the unreasoning and unwarranted fears that have been engendered in the community as to the dangers of contagion in this disease. The medical profession are not responsible for this "scare," which is due largely to the unwise agitation of certain laymen and lay journals, actuated more by zeal than knowledge.

In reference to the article by Dr. A. C. Lambert in the last number of **THE CANADA LANCET** containing certain suggestions (to as) precautions which should be taken against the entrance of Bubonic plague into Canada, we are in receipt of a letter from Dr. Montizambert, Director General of Public Health, in which he states that these preventive measures have been recommended as far back as 1895. Certain difficulties have so far prevented their adoption by the authorities but there is every reason to hope that these will shortly be overcome and then the precautions mentioned will be enforced. With the experience gained from the outbreak of plague at San Francisco, certainly every effort should be put forth to protect our western ports.

No modern writer has referred to the physician with more grace and with kindlier feeling than Robert Louis Stephenson. Surely he had us all in mind when the little prayer given in the new "Life" by Graham Balfour was penned. It found an echo in the heart of our business man whose death from typhoid fever was recently and most sincerely mourned in this city and is copied from a slip that lay upon his desk when the fatal illness was developing. Medical men, into whose lives there enters of necessity so much of care and of anxiety may find the invocation restful :—

N. A. P.

"The day returns and brings us the petty round of irritating concerns and duties. Help us to play the man; help us to perform them with laughter and kind faces; let cheerfulness abound with industry; give us to go blithely on our business all this day; bring us to our resting beds weary and content and undishonored and grant us in the end the gift of sleep. Amen."

PERSONAL.

Dr. T. W. Lambert, of Kamloops has gone to Europe.

Dr. E. Fitzpatrick has removed from Vanleek Hill, to Winnipeg.

Dr. A. F. Wright, (Trinity '01) is now practising at Plainville, New York.

Dr. F. Phinnēy and Dr. A. P. Crocket, of Fredricton, leave soon for Europe.

Dr. H. E. Paul, of Napanee, has gone to spend a few months in New York.

Dr. Wm. Brace, of Brockville, will spend the winter in Calgary for the benefit of his health.

Dr. K. C. McIlwraith, has recently been elected a Fellow of The Obstetrical Society of Edinburgh

Dr. C. D. Parfitt, has been appointed to a position on the resident staff of the Muskoka Sanatorium for Tuberculosis.

Dr. A. P. Kelly (Trinity '98) formerly a House Surgeon in St. Michael's Hospital, Toronto, has begun practice in Orillia.

Dr. Howard Kelly and Dr. Thomas Cullen, of Baltimore, were in Toronto last week to attend the funeral of Dr. Lesslie M. Sweetman.

Dr. Thos. G. Roddick, has been appointed Dean of the medical Faculty, of McGill University, in succession to Dr. Craik, who recently resigned.

Dr. Wm. Nattress, has taken up his office and residence on Rusholme Road, Toronto, his former residence on Carlton St., being now occupied by Dr. Donald MacGillvray.

Dr. Geo. A. Sutherland, of Embro, formerly a member of the resident medical staff of the Toronto General Hospital, we are glad to learn, is recovering from an attack of Typhoid fever. The doctor had a perforation of the bowel, which was operated on by Dr. H. A. Bruce. This, we believe, is the first successful operation for typhoid perforation in Canada.

The following gentlemen have been elected officers of The Ontario Medical Library Association for the coming year: President, J. F. W. Ross; 1st Vice-President, R. A. Reeve; 2nd Vice-President, A. A. MacDonald; 3rd Vice-President, W. J. Greig; Secretary, H. J. Hamilton; Treasurer, H. A. Bruce; Curator, N. A. Powell; Assistant Curator, W. J. Wilson; Solicitor, W. Mulock, Jr. These gentlemen with H. T. Machell, R. A. Pyne, G. H. Carvith, and H. B. Anderson form the Board of Directors.

BOOK REVIEWS.

DORLAND'S MODERN OBSTETRICS.

Modern Obstetrics: General and Operative. W. A. Newman Dorland, A.M., M.D., Assistant Demonstrator of Obstetrics, University of Pennsylvania; Associate in Gynecology, Philadelphia Polyclinic. Second Edition, re-written and greatly enlarged. Handsome octavo, 797 pages, with 201 illustrations. Philadelphia and London; W. B. Saunders & Company, 1901. Cloth, \$4.00, net. Canadian Agents: J. A. Carveth & Company, Toronto.

This work has probably not been so widely read in this country as some others. Still, it is worthy of a place with the best works on the subject. Either student or practitioner will find it a work well up to date and reliable. It is written with a clearness which leaves no doubt as to the author's meaning.

In the chapter on Eclampsia, there is a thorough discussion of the role which the liver plays in disease.

A classification of the many causes of puerperal sepsis is given, together with their clinical bearings. No doubt many will differ with the author's statement regarding the frequency of the gonococcus as a cause of puerperal sepsis. He states that twenty-five or thirty per cent. of all women become gonorrhoeic. Let us take it for granted that he means married women. We can hardly endorse this statement, for, if that be true, the germ cannot be very active as a cause of sepsis. For instance, in the reviewer's fairly large practice of obstetrics of twenty odd years, only two cases of sepsis have been met with; and there was no reason to believe that either of those was due to gonorrhoea. Again, in hospital practice, since the use of antiseptic precautions, the number of cases has so largely diminished that one can hardly believe that the gonococcus ever was a leading cause of the disease. However, the author's statement will be a fresh argument for those operating gynaecologists who believe that all "pus tubes" are caused by the gonococcus germ.

One very important point is treated very fully and ably, namely, the protection of the perineum during labor. The student and young practitioner will find a great deal of good advice in this connection.

L. B.

GRAY'S ANATOMY.

Anatomy, Descriptive and Surgical. By Henry Gray, F.R.S. Edited by T. Pickering Pick and Robert Howden. Revised American, from the fifteenth English, Edition. With 780 illustrations, many of which are new and in colors. Lea Brothers & Co., Philadelphia and New York, 1901.

Gray's Anatomy has long since passed the stage where it needs any praise, or fears any criticism. To say that a large Imperial octavo volume of 1,257 pp. on so difficult a subject as descriptive and surgical anatomy is well-nigh perfect, is no small praise. Yet such is the case.

If a few remarks are offered of critical character, they are only intended as suggestions to make the work still more perfect in the future.

In the description of the ligamentum teres of the hip joint, no mention is made of its suspensory action. By means of the two ligamenta, the pelvis is suspended from the heads of the femora ; and not carried by them pressing against the upper portion of the acetabula. In the dissection of about 1,000 hip joints it was never found absent, though the text states that it often is, or is unimportant in development.

The illustration at page 654 gives the old classification or numbering of the cranial nerves. This is unfortunate. On page 507 the illustration gives these nerves correctly numbered.

In the illustration of the optic commissure on page 721, the old view of inter-retinal fibres is still retained. No such fibres are described in the text, as indeed none such exist.

The illustration of the foramen of Winslow on page 900 is still faulty. The layers of the peritoneum, forming the gastro-hepatic omentum, do not course along as represented in the diagram. The greater sac should be continuous with the smaller sac. The layers are not perforated to form the foramen of Winslow as the diagram shows. The foramen is formed by the constriction of the peritoneum at this point, and is the passage through this constriction from the greater to the lesser sacs.

The cervix uteri is wrongly portrayed on page 1,026. The posterior lip of the os does not recede behind the anterior lip as shown in the illustration.

On page 1,042 there is a faulty diagram of the intercolumnar fibres. The description of these fibres on page 1,043 is not quite clear. They are not connected to the outer third of Poupart's ligament. These fibres are some of the fibres of Poupart's ligament, and diverge in course from it, crossing inwards and upwards to the linea alba. They are therefore some of the fibres of Poupart's ligament taking an independent course.

The description of the appendix is meagre. As it plays so important a part in modern surgery its relations, peritoneal covering, and vascular supply merits more consideration. The appendix sometimes has no mesentery. It lies behind the peritoneum, in the retroperitoneal tissue. Its perforation in such a situation would give rise to an abscess outside the peritoneal cavity.

Though the above criticisms are offered, they do not detract appreciably from the real merit of the work. Gray's Anatomy is, taken all-in-all, the most useful and trustworthy work on the subject of anatomy within the reach of the student and practitioner. The publishers deserve high praise for the splendid form in which they have gotten the work up.

J. F.



FRONTISPIECE CANADA LANCET.

LESSLIE MATTHEW SWEETNAM,

BORN 1859; DIED DECEMBER, 1901.

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No. 5

THE ETIOLOGY AND EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

BY D. GILBERT GORDON, B.A., M.D.

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IT is not a matter of wonder that the subject of tuberculosis should be receiving, as it always has, so much attention from the members of our great profession all the world over. For does not this dread scourge claim as its toll year by year about one-fifth of those who go down to death? More than all the other infectious diseases put together. Not satisfied with this, it insists, too, that its victims be taken in great part, at that time when it is most sweet to live and most hard to die. The most important causes of the disease and its early detection I desire to treat of in this paper. I feel rather relieved that at the present juncture I need have nothing to say as to the part played by the tubercle bacillus in meat or milk, for we must all be agreed that as far as pulmonary tuberculosis at least is concerned, the tubercle bacillus received into the system by the ingesta must play a very unimportant part in its etiology. The direct inheritance of the disease must also be very rare indeed. The only direct cause worth while troubling ourselves about is the inhalement of dried sputum beladen with the tubercle bacillus. This is practically the only source of pulmonary tuberculosis.

But there are other causes which we speak of as predisposing which are all important to us, for by removing them we will so cripple the enemy, so remove him from his base of supplies, that he will be forced to quit the open field and content himself with the meanest kind of guerilla warfare. What are these causes?

1. Insufficient ventilation and sunlight.
2. Insanitary condition of dwellings, workshops and factories.
3. Density of population.
4. Occupation.
5. Alcoholism.
6. Previous attacks of certain diseases.

* Read before the Canadian Medical Association.

1. *Insufficient Ventilation and Sunlight*.—With regard to the bacilli, it is certainly true that they “love darkness rather than light,” I suppose “because their deeds are evil.” However, we are certain if we could drive them out of their favorite haunts of darkness and dirt, soon their virulency and aggressiveness would be much diminished.

2. *Insanitary Conditions*.—We all know that this is eminently a dirt disease. It should therefore be placed among the commonly known seven zymotic diseases. In this connection allow me to quote the words of Professor P. Brouardel of Paris taken from his paper read at the great conference on tuberculosis held in London a few weeks ago. He says “Before the scientists I have just mentioned had actually made known their discoveries you English people had already begun the struggle. Convinced by observation that tuberculosis thrived in dark and damp dwellings, in 1836 nearly seventy years ago, you passed a law providing for the construction of healthy houses. And since that date your zeal has not abated. You have with admirable perserverance passed more than ten Acts of Parliament; you have rendered salubrious the dwellings of the poor; the work-shop, the town and the whole kingdom.”

Density of Population.—It is a matter of common observation that tuberculosis is not only more prevalent but more rapidly fatal in those communities where people are huddled together in conditions of poverty. I copy here a table by Dr. J. B. Russell to the Philosophical Society of Glasgow taken from the Hygiene of Transmissible diseases by Abbott, which shows the truth of the above as found in Glasgow.

Table showing death rate per 100,000 from certain classes of diseases in various sized houses :

	One and Two Rooms.	Three and Four Rooms.	Five Rooms and Upward.
Zymotic diseases	478	246	114
Acute diseases of lungs, including consumption...	985	689	328
Nervous diseases and diseases of nutrition	480	235	91

It is gratifying to see that efforts are everywhere being made to eradicate this plague. In Canada, it hurts me to say it, we are woefully behind in this respect. The attention of our Governments and our wealthy men should be persistently and emphatically directed to this great need. Although the public doubtless is grateful for millions spent on public libraries in their interests, yet it does seem to me that some millions spent

in providing means to be used to prevent the spread of this awful plague by which undoubtedly hundreds of lives would be annually saved from infection, would yield a more satisfactory interest on investment than that spent to endow public libraries, or even that spent for payment of fees of a nation's prospective University Students.

Occupation.—Occupation bears an important relationship to the causation of pulmonary tuberculosis, but there is no doubt that the occupation itself is less a causative factor than the condition of the surroundings under which the occupation is carried on.

With regard to alcohol as an etiological factor in tuberculosis, Prof. Brouardel states that Sir John Simon was right in saying "that wretched lodging is the purveyor of the public house". And we can add to it that the public house is the purveyor of tuberculosis. In fact, alcoholism is the most potent factor in propagating tuberculosis. The strongest man, who has once taken to drink is powerless against it.

Previous attacks of disease.—This dread disease greatly strengthens its position in its warfare against mankind by the favorable alliances it has succeeded in making with such diseases as la grippe, pneumonia, pleurisy, or bronchitis. An attack by one of these affections frequently acts as an etiological factor in tuberculosis. Or, to continue the metaphor, such an attack may so weaken our defences that we are unable to resist the onslaught of the relentless bacillus tuberculosis.

The early diagnosis of pulmonary tuberculosis.—Writers on this subject are in the habit of dividing the disease into stages. We therefore see it divided into a first, second and third stage. We speak also of a pre-tubercular stage, the stage before there is any expectoration and generally before the bacillus can be found in the sputum. It is very evident that these stages cannot be well defined. The degree of advancement in each stage differs accordingly to the examiner. This I have no doubt accounts largely for the discrepancies found in statistics as to cures in the different stages. Over and over again I am forced to make up my mind as to this question: has this patient who is trusting himself to me the tubercle bacillus in his lung, or has he not? If he has, and I being at the time a little hurried or perhaps a little wearied, tell him after a very cursory examination that he has a little cold but that it is just in his tubes, and that his lungs are all right, then I have done my patient a great wrong. He goes away relieved, but in a few months, not being well, consults some other man who tells him that he has consumption. We may not be able to make a diagnosis on our first examination, but before we allow the patient out of our hands we should do our best

to ascertain his condition. The means at our disposal for this purpose are :

1st. Ascertaining the presence of certain symptoms indicating the tuberculous condition.

2nd. The patient and careful study of the thorax for the symptoms pointing to the same.

3rd. The examination by the Rontgen Ray.

4th. The use of the tuberculin test.

5th. The microscopic examination of the sputum.

I will first consider the value of a careful study of the existing symptoms, not because I consider them so important as the physical signs in aiding us to make our diagnosis, but because on account of their presence the patient is, for the most part, first led to seek our advice.

In discussing this question I do not purpose to take into consideration those symptoms or signs so evident during the latter stages of the disease, but only those which I have found to be of use in making a diagnosis before, if possible, the tubercle bacillus can be found in the sputum. Our patient is before us. The question of inherited tendencies, or the more important question of exposure to infection, should be considered.

The presence of cough is, in my experience, the most common danger signal. Generally a short, hacking cough, noticed especially if the patient is about to speak, or after full inspiration. It may be the common "clearing of the throat"—it may be bronchial—yet a cough persistent with morning expectoration, bronchial in character, I have found frequently to be tubercular in origin, and I believe frequently is. The cough may simply be due to a bad cold, it may follow an attack of pneumonia or grippe. In these cases we must satisfy ourselves that the condition is not tubercular. There are, of course, other causes for cough, but a persistent cough should make us suspicious.

Hæmoptysis.—As we all know the spitting of bright blood, while not a very common symptom in incipient tuberculosis is a very certain one and often a very early one. Given a case of blood spitting whether in mouthfuls of bright blood or as tinged sputum in which we can exclude laryngeal disease and chronic heart disease by examination of the larynx and heart, and pneumonia and carcinoma by the nature of the expectoration, and one hundred to one the case is tubercular.

Temperature.—A slight elevation of temperature, an elevation of 1 degree or $1\frac{1}{2}$ degrees occurring between three o'clock and four o'clock in the afternoon, and this continuing for some time is a symptom that should claim our attention. Should the temperature go up a little higher after slight exercise and perhaps disappear with a two weeks' rest in

bed we are still more convinced that it is due to tubercular infection. An increased pulse rate we expect with the rise in temperature, which increase persists frequently when the temperature is normal.

Pain.—Sometimes the first symptom complained of is a pain in the upper part or less frequently in the side of the chest, probably pleuritic in character. The absence of pain, in so many of these cases, is one of nature's delinquencies and like many another failure in duty results in dire consequences. Gastric disturbances taken with other symptoms are important.

Physical signs.—Our attention having been directed by the symptoms to the threatened condition of our patient we proceed to examine his chest. He, or she must be stripped to the waist, placed in a good light (I prefer to have him standing before me when he can be moved about at will), I think it important that a regular order should always be adhered to in making this examination. Repetition tends to perfection. If there is one thing more than another which I would like to emphasize it is this, the importance of taking plenty of time with the examination. The order generally observed, is I think the best, namely, examination by inspection, palpation, percussion and auscultation.

Inspection.—Examination by this method does not give us much information at a very early stage. When, however, the disease has progressed somewhat the information gained in this way is most valuable. Yet inspection tells us something of interest to us even now. The long narrow chest, oblique ribs, prominent clavicles, acute epigastric angle, winged scapulae, will indicate a pre-disposition to tuberculosis. Should the patient have suffered much from pain there may be noticed over the affected part diminished expansion.

Palpation.—By this method we may perhaps distinguish the nature of the pain, if there has existed any. Should there be any considerable infiltration, and that near the surface of the lung we may be able to notice an increased tactile fremitus.

Percussion.—With great care and light percussion a tuberculous nodule or even a small infiltrated mass may cause a slightly dull and high pitched percussion note over the affected part, but what I have found more useful at this stage is a more resonant and prolonged note in the neighborhood of the dulness.

Auscultation.—It is I think to this means of examination that we will have to trust for our most reliable early diagnostic signs. And the first sign I would notice is that of impaired breathing, a most markedly enfeebled inspiratory sound over the affected part, at the same time there may be, if not there will be later an increased expiratory sound, and later still the regular harsh bronchial breathing. Here also the increased voice sound

is a most valuable sign. Bronchophony I have often found very early. Whispering pectoriloquy likewise. It is well to examine at first the patient breathing naturally, afterwards by more forced breathing. There is one other sign which I would like to mention, though rare, it is when present very striking, and often early, that is a markedly interrupted breathing, cog-wheeled respiration. Every part of the thoracic wall where the lung can be reached should be carefully gone over, and here I would like to emphasize the importance of examining particularly the inter and supra scapular regions as well as the clavicular regions for evidences of the disease. While it is not possible to have a standard of normality for chest sounds owing to the different relationship in different persons, yet taking into consideration the thickness of the wall in each case we should have some idea of what would be normal in that particular case. Then we can use to great advantage the rapid comparison of one part with a corresponding one on the opposite side of the thorax. If the phonendoscope is being used for the purpose of testing the voice sounds, on account of the sensitiveness of this instrument we will be led into error should we forget that on account of the greater number and greater size of the bronchi on the right the voice sounds are normally increased.

The Roentgen Ray.—This as a means of diagnosis is certainly valuable, and as a confirmatory sign specially so, and in many cases it will in skilled hands discover the enemy. Dr. Francis H. Williams, of Boston, has done most useful work in this connection. In the *Medical Record*, May 13th, 1899, he states that in five cases he discovered by the X Ray changes in the lung before they could be detected by physical signs. The *Philadelphia Medical Journal* reports six cases examined by Dr. Williams in which he claims that the diagnosis was made more certain by the use of the X Ray. It is a method quite free from risk and should be used where practicable. My own experience has been limited in this method of examination, but where I have used it it has not disappointed me. This month by the kind assistance of Dr. John McMaster at the Toronto General Hospital I examined five patients by the X Ray. In two of these where there was but little doubt; the haziness over the parts affected and the limited excursion of the diaphragm were marked.

In one case where there was some doubt, the diagnosis was not made plainer. In the other two it was most helpful as an aid to diagnosis. The last three cases were in the pre-tubercular stage.

The Tuberculin Test.—This test for diagnostic purposes alone is when used in suitable cases the most certain of all tests, with the exception of the discovery of the germ by the microscope. Advanced

cases appear to be non-reactive. The reaction is imperfect also where sarcoma, carcinoma or syphilis exists. And moreover, it has been pointed out by Trudeau and others that a reaction occurs sometimes in the apparently healthy. In how many of these there may have been latent tuberculosis it would be impossible to say. But what seems to me to exclude from general use this valuable diagnostic test is this, that still many able men aver that the use of this test is dangerous to the patient; that it often kindles the smouldering embers of a dangerous fire. I have used tuberculin recently in a number of cases with gratifying results.

Microscopic Examination.—The discovery of the tubercle bacillus by the microscope is the one absolutely certain sign that we possess of the existence of pulmonary tuberculosis, and where any expectoration can be secured if only a little in the morning, this should be given to a skilled microscopist for examination. But, I would feel inclined to disagree with Professor Llewellyn P. Barbour when he stated in a most excellent paper published in the Medical Record of June 1896 "that if after several attempts by one skilled in the procedure no bacilli are found Phthisis may be excluded". This statement was made in 1896, I think all agree now that the disease can be diagnosed in most cases before the bacilli can be found. I would also hope to believe, and do believe that the statement made by Dr. Barbour in the same paper that not more than one in twenty first-stage cases are recognised, is not true now, and that similar statements made by Dr. Ambler in the New York Medical Journal of 1898 are also now not true. We must not trust to one symptom alone. Neither must we be satisfied by one examination alone, but we must spare neither trouble, time nor expense to prevent our patient the loss of months which will in all likelihood mean to him the loss of his life. The study of symptoms and signs must go together, and while I believe that the stethoscope or some allied instrument is the most useful instrument we have for this purpose, yet we must not forget that there is truth in the statement, which has been so well put, "That absence of audible evidence of internal lesions is a remarkable fact in many cases of even advanced tuberculosis and physical signs may come and go in a way that baffles explanation and discourages the investigator."

BIBLIOGRAPHY.

1. British Medical Journal, July 27th, 1901.
2. Hygiene of Transmissible diseases, Abbott.
3. The Medical Record, July 13th, 1896.
4. New York Medical Record, February 12th, 1898.
5. American Medicine, August 3rd, 1901.

ACUTE MILIARY TUBERCULOSIS.

By JAS. THIRD, M.D.,

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A CUTE miliary tuberculosis is a specific infection, dependent on the breaking down of an old tuberculous focus somewhere in the body and the dissemination of the liberated bacilli by the blood or lymph stream. It is therefore a secondary disease. The primary focus may or may not be apparent.

The lesion may be in the lung, the lymph glands, the joints, kidneys, Fallopian tubes, etc.

The avenues by which the bacilli reach the blood were not clearly indicated until Weigert demonstrated the intimate association between miliary tuberculosis and tuberculosis of the blood vessels. According to his view the tuberculous process may invade the adventitia—a periangitis—and the bacilli find access to the blood through a fistulous opening, the result of a breaking down of the caseous mass, or the disease may, though rarely, commence in the intima—an endangitis—in which case the bacilli are swept into the blood current by a gradual softening of the intimal focus.

The pulmonary veins are specially singled out for attack. To branches of these veins we not infrequently find caseating tracheo-bronchial glands firmly adherent and the process gradually working its way towards the intima. Nor is this distribution surprising. It will be remembered that these glands are receptacles for all bacilli from the bronchial tract that are not ingested and destroyed by the broncho-pulmonic phagocytes.

The thoracic duct is a portal through which less frequently the bacilli reach the blood. The tuberculous process here, as in the veins, may penetrate the duct and pour its contents into the lymph stream soon to be lost in the subclavian vein. Clinical experience has shown however, that infection from this source is less virulent than that from the veins, that the disease tends to run a less rapid course.

It is highly probable that the virulence of any attack and the rapidity with which the destructive process goes on, are directly proportionate to the amount of poison thrown into the circulation.

The tubercle bacilli, having gained the blood, do not multiply in the active stream but are carried by it to the minute ramifications of the vessels in the various viscera, where they at once set up embolic foci, each

of which forms a nucleus for that peculiar aggregation of cells that we are accustomed to designate "miliary tubercle."

These miliary tubercles appear on the surface as dirty grayish nodular masses varying in diameter from one to three millimetres.

The minute structure of a tubercle is described elsewhere in this number.

Symptoms—For convenience the symptoms will be considered under the following heads:—(1) Typhoid form. (2) Pulmonary form. (3) Meningeal form.

It must be borne in mind however that there is no hard and fast line separating the typhoid from the pulmonic form. In the former the symptoms are those of an acute toxæmia and probably dependent on the large amount of tuberculous debris thrown into the circulation at one time; in the latter the pulmonic symptoms predominate although the toxæmic are not wanting. In the meningeal form the symptoms point unmistakably to a cerebral affection during the progress of which, symptoms referable to other organs are in abeyance.

Typhoid form—In this form all symptoms point to a generalized infection. There is in most cases a period of incubation not unlike that of typhoid fever during which the patient complains of malaise, headache, chilliness, anorexia and increasing debility. Rarely the onset is sudden. The presence of the toxins is shown by the fever, the rapid feeble pulse, the flushed cheek, the dry tongue and mental dulness amounting in some cases to stupor or even coma. The temperature range is high, varying from 102 to 104 F., and occasionally in the later stages a temperature of 105 or 106 is met with. It is irregular in type and lacks the step-ladder characteristics that mark the early stages of typhoid fever. The steadiness of the first week of the fastigium is also wanting. Not infrequently we find an inversive type of temperature—a morning exacerbation and evening fall. This has occurred in 50 per cent. of my cases. It may continue for ten or twelve days at a time but it seldom lasts throughout the entire illness. It is met with occasionally in typhoid fever. Rarely the disease is afebrile throughout. The irregularity of the temperature-curve is of importance from a diagnostic point of view.

The pulse is small and its rate is altogether out of proportion to the fever.

The respirations are rapid—probably 30 to 40 per minute and still it is unusual for the patient to complain of shortness of breath. There is more or less cyanosis and a peculiar pallor of countenance characteristic of this form of the disease. No bacilli are found in the sputum because of the rapid and fatal termination of the disease. The only exception to this is

the co-existence of an old ulcerative focus in the lung or respiratory tract. If the disease is protracted the percentage of haemaglobin drops and with this fall there is an oncome of profound prostration.

When the tubercles affect the kidneys they give rise to an acute parenchymatous nephritis, the urine is diminished in amount, febrile in character and contains albumen and casts. Tubercle bacilli are absent. Their presence implies the existence of an old focus in the kidneys in the stage of disruption.

Apart from coma, which is a terminal event, the nervous symptoms are not marked.

The spleen is enlarged but the degree of enlargement is in no way comparable to that of typhoid.

When the disease is widely disseminated, choroidal tubercles are not infrequently found in the eye-ground. Their absence does not militate against the diagnosis of a general miliary tuberculosis. Their presence is positive proof of the disease and suggests the invasion of the meninges. They do not disturb the vision. Their demonstration requires the aid of an expert ophthalmologist. The physical signs, unless in protracted cases, are simply those of an ordinary bronchitis.

The differential diagnosis is not easy, typhoid, septicaemia, septicopyaemia and intermittent fever all claim consideration in this connection.

The intermittent malaria may be excluded by the absence of the haematozoa of Laveran or by the less scientific but equally accurate method of administering quinine "An intermittent fever that resists quinine is not malaria" (Osler).

A primary recognizable site of infection goes a long way in differentiating ordinary septicaemia and septicopyaemia from miliary tuberculosis. A bacteriological study of the blood clinches the diagnosis. There is however a form of septicaemia the "cryptogenetic septicaemia" of Leube that offers greater difficulty. In this form no primary focus has been recognized. These cases are not very infrequent but further investigations are necessary before a classification can be attempted.

By far the greater number of mistakes have arisen in discriminating between typhoid fever and the typhoid form of miliary tuberculosis.

The following are the points of dissimilarity:—(Anders).

Acute General Miliary TUBERCULOSIS.	TYPHOID FEVER.
" Family history of tuberculosis, or presence of an old focus.	Coexistent with an epidemic or following previous cases of typhoid.
Evolution of the disease not characteristic.	Evolution characteristic.

Acute General Miliary
TUBERCULOSIS.

Epistaxis rare.

Temperature-curve irregular in type.

Pulse rapid, out of proportion to fever.

Respirations rapid and labored.

Face dusky, with peculiar pallor.

Abdominal symptoms not suggestive.

No characteristic eruption.

Widal reaction absent.

Knee-jerk may be absent.

Leukocytosis may be present.

Choroid tubercles may be detected.

Tubercle bacilli rarely demonstrable in the blood.

Hæmorrhage from bowels exceptional.

Perforative peritonitis absent.

TYPHOID FEVER.

Epistaxis a common early symptom.

Temperature-curve of the continued type.

Pulse often dicrotic, slow in proportion to fever.

Respirations moderately increased.

No duskiness of face.

Abdominal symptoms (stools, enlarged spleen, tympantitis, &c.) suggestive.

The eruption appearing in successive crops is pathognomonic.

Widal reaction present.

Knee-jerk never wanting.

Absent unless complicated by a suppurative process.

Absent.

Cultures from punctured spleen may show typhoid bacilli (dangerous procedure). They may be found in the stools.

Hæmorrhage from bowels common.

Often present."

The agglutination test is of great value but it is not infallible. Like all other reactions it must have clinical evidence to support it. A positive Widal simply means that the patient is having, or has had within a limited time, or at all events that he has, at the time of examination, in his system, probably in the bile, the elements of infection—the typhoid bacilli. It will then be apparent that should the typhoid antedate the tuberculosis, say five years, we might still get the Widal reaction notwithstanding the fact that our patient suffers from tuberculosis. Should we be able to exclude a previous attack of typhoid then the Widal reaction assumes considerable diagnostic significance. Osler, however, reports two cases giving a positive Widal reaction in which there was absolutely no evidence that either had suffered at any time from typhoid fever. In Cabot's collection of 5,978 cases there was a positive reaction in 97.2 per cent.

With tuberculin as a means of diagnosis my experience is limited and not altogether favorable. In 1891, I saw in the Toronto General Hospital, a case of acute miliary tuberculosis develop while the patient was undergoing treatment for lupus with Koch's original tuberculin. Shall we say this was a coincidence? If so Lockwood's experience at Bellevue Hospital furnishes many such. Of the accuracy of this means

of diagnosis there seems little doubt. Osler warmly advocates the use of tuberculin in obscure cases. It may become an agent of value in diagnosis but at present it should be used with extreme caution. A diagnosis is of little consequence if the smouldering fire has been fanned into a wide-spread conflagration.

Pulmonary Form.—A long period of impaired health, with more or less cough, is the usual prodrome of this form. An influenza especially, the thoracic type, may be the immediate cause of the outbreak. During the early part of the present year, when influenza was epidemic in this district, two cases of pulmonic miliary tuberculosis came under my notice following la grippe. Both ran a rapid course, the former terminating on the 23rd day, the latter on the 37th.

In children measles and whooping cough seem to prepare the soil. Whatever may be the predisposing cause the early symptoms and physical signs are those of a diffuse bronchitis, the very late those of a bronchopneumonia. Dyspnoea which attracts little attention in the typhoid form here assumes grave significance, the pallor gives place to decided duskiess, the expectoration is profuse and muco-purulent in character; these coupled with a history of tubercular disease make the diagnosis reasonably certain. In other respects the symptoms are those of the typhoid form and what has been said in respect to differential diagnosis under that head applies here. When an old tuberculous lesion is present in the lung, tubercle bacilli are found in the sputum not otherwise.

Meningeal Form.—Meningeal tuberculosis is said to be occasionally a primary disease, the bacilli gaining admission to the cerebral meninges through the cribriform plate of the ethmoid. The experiments of Strauss at the Charitè Hospital demonstrate the presence of tubercle bacilli in the nasal passages, but beyond this point all is hypothetical. We have no conclusive evidence that infection has ever taken place in this way, and at present we prefer to consider meningeal tuberculosis as invariably secondary, the primary focus in some instances escaping detection. In Eichhorst's series of 100 autopses a primary focus was detected in 98. The primary lesion was found most frequently in the bronchial glands.

The mode of infection differs in no way from that referred to at the beginning of this article. The chief site of the tubercles is the pia mater at the base of the brain, although not infrequently the meninges of the cervical region and indeed of the whole length of the cord are affected, so that the disease might with propriety be designated cerebro-spinal meningitis of tuberculous origin. The quadrangular space bounded by the "Circle of Willis" and its outlets the Sylvian fissures are the areas

chiefly affected. These areas may be covered by a sero-fibrinous or more frequently a fibrino-purulent exudate. Gently sweeping away a portion of this exudate, the tubercles become apparent on the smaller vessels and are best examined with a small platyscope. In doubtful cases the branches of the middle cerebral arteries should be very carefully scrutinized. In this location the development of tubercles is particularly active. The number of tubercles seems to bear little or no relation to the amount of exudate. Corresponding to the distribution of the tubercles in the pia mater and a little beyond there is a superficial cerebritis—the depth in not a few instances being commensurate with the acuity of the process in the pia mater. The flattened appearance of the convolutions however, is due in part to the accumulation of fluid in the ventricles—acute hydrocephalus—and the consequent pressure from within outwards. This fluid is turbid in character and large in amount, dilating the cavities to their greatest limit and inducing a cadaveric softening of the ventricular walls.

Tuberculous meningitis affects children more frequently than adults. It is rare in the first year of life, most cases occurring between the ages of two and seven. There is usually a history of a fall. The evolution of the disease is characteristic. The symptoms change as the exudate increases. There is usually a prodromal stage of one or two weeks, during which the patient is peevish and fretful, complains of muscular weakness and photophobia and as a rule forsakes his playmates to bury his head in the maternal lap. During sleep he grinds his teeth, due to clonic spasms of the muscles of mastication, and not infrequently the child's initial dose of medicine for this condition has been a worm-powder. The bowels are constipated and there is more or less anorexia with occasional outbursts of propulsive vomiting. Occasionally the disease develops abruptly, especially in adults, and this fact more than any other has given rise to the theory of a primary infection. The stage of irritation is ushered in with vomiting, severe headache and chills followed by fever varying from 101 to 104 F. The headache, frontal in type, may be intense, the child at intervals uttering a short sudden, piercing cry—the so called hydrocephalic cry. The vomiting is uncontrollable, is due to irritation of the vagus, bears no relation to the taking of food and subsides only when the nerve is paralyzed. In this stage the pulse is slow in consequence of irritation of the vagus. As the disease progresses the pulse gradually increases its rate, until by the time paralysis of the vagus occurs, counting the pulse is almost an impossibility. This fact is a valuable aid in prognosing the probable duration of the disease. The bowels are obstinately constipated, due perhaps to spasm of their muscular coats. In the

stage of paralysis diarrhoea occurs. The abdomen is scaphoid or trough-shaped, the tongue coated, the breath offensive.

Convulsions are not uncommon, especially in the patients of two or three years. They occur earlier in those cases where the disease extends along the Rolandic area. There may be spasmodic twitching of the muscles on one or both sides. If the post-basic or spinal meninges are affected there is retraction of the head and perhaps opisthotonus. The expression is frowning and the eyes are closed, although vigilance is a prominent symptom in this stage. The sleep, when it does occur, is much disturbed by distracting dreams, evidenced by the so called night-terrors. If the pupils are exposed to the light the increased pain is the occasion for an outburst of crying. The symptoms of cerebral irritation gradually abate, the child becomes dull and apathetic, until at the end of a fortnight the stage of excitement closes, leaving the patient comatose, and with few external evidences of life other than convulsive movements of the face, the arms or the legs.

The temperature during the stage of coma varies. At first it is high ranging from 102 to 105 F., later it becomes subnormal and remains so until just before death when an ante mortem rise of 106 or even 108 F., is not infrequent. Apart from hyperaesthesia the cutaneous manifestations are not important. A mottled erythema is occasionally observed.

The ocular symptoms are of special importance. Choroidal tubercles are occasionally met with. Optic neuritis is exceedingly common in the late stages of the disease. The state of the pupil is a fair index to the stage of the disease. In the irritative stage the pupils are contracted; as the exudate increases the pupils may be irregular dependent upon the unequal pressure on the 3rd nerve in the area affected. Ere long, the intracranial pressure becomes sufficiently marked to paralyze the motor oculi, when dilatation, ptosis and conjugate deviation result. In tuberculous meningitis of the convexity, without distention of the ventricles, dilatation of the pupils does not occur. In some instances there is paralysis of the 3rd nerve on one side and of the face, limbs and hypoglossal nerve on the opposite side. The eyes remain partially open—a lagophthalmos—and between the lids, the white sclera, and a small portion of the cornea, can be seen as the upturned eyeballs are slowly oscillated from side to side. The course of the disease varies as a rule from a few days to a few weeks. In a recent case the patient, a lad of 14, lived six months. There was no very clear history of tuberculosis. A diagnosis of cerebral tumor had been made.

The recognition of tuberculous meningitis is not difficult. The history, the insidious onset and the train of symptoms leave but little doubt.

Kernig's sign is present in most cases. If the thigh be flexed to a right

angle with the abdomen, the leg cannot be extended on the thigh if meningitis be present. The effort gives great pain. It is present in all forms of acute spinal meningitis. In obscure cases lumbar puncture should be resorted to. The absence of the diplococcus intracellularis in the fluid excludes cerebro-spinal fever. Tubercle bacilli may be found in the centrifugalized fluid; a sterile fluid however does not preclude the possibility of a tuberculous condition. In such a case a guinea-pig should be inoculated.

A fatal termination is the rule. A few cases of recovery have been reported. Fürbringer's case, from which he withdrew by lumbar puncture 60 c. c. of cloudy fluid containing bacilli, was apparently well six months afterwards. Freyhan reports a recovery, the diagnosis having been confirmed by lumbar puncture. Barlow of University College Hospital, claims that recovery is possible in circumscribed tuberculous meningitis. He advises the exhibition of mercury. Bromide and chloral are indicated in the convulsive stage. Ice bags have been applied to the head and spine. The treatment however of acute miliary tuberculosis is entirely symptomatic, the course of the disease being uninfluenced in any way by human agency.

EFFECT OF DIET ON SUSCEPTIBILITY TO TUBERCULOSIS.

IN an editorial note in the issue of October 30th, the "Medical Press and Circular" mentions the result of an investigation recently made at the London Zoological Gardens as to the effect of diet on the susceptibility of monkeys to tuberculosis. Two sets of animals were fed, the one on vegetarian, the other on meat diet, and it was found that seventeen out of thirty-five deaths during six months among vegetarian monkeys were from tuberculosis; while of ten deaths among the other class not one was from this cause. Curiously enough this result accords with the view derived from clinical experience in Sanatoria for consumptives, which has lately emphasized the importance of a nitrogenous diet in cases of phthisis, but this only partly explains the reason for the above result, as certain of the herbivora have almost as complete an immunity as the carnivora. Probably the manner of life of the latter class, requiring as it does a higher degree of activity, has something to do with the relative immunity.

In the same number of this periodical attention is called to the danger of the "oxygen fallacy," on the ground that especially in pulmonary tuberculosis there is an over-combustion, a true consumption, where the respiratory changes as measured by the output of carbonic acid are in excess of the normal.

A. J. M.

TUBERCULOSIS OF THE PELVIC ORGANS IN THE FEMALE.

By THOMAS S. CULLEN, M.B.

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THIS is a subject that, until recent years, has attracted little attention. In 1892 Williams gave a complete review of the observations up to that time, and since then many cases have been reported. I will not here attempt to give a survey of the literature, but merely describe the clinical and pathological findings as we have observed them in the Johns Hopkins Hospital.

TUBERCULOSIS OF THE VAGINA.

This disease is comparatively rare. When the patient comes under observation she usually presents an area of ulceration. The ulcer is irregular in shape, is surrounded by a slight inflammatory halo, has sharp, slightly raised margins, and the base is rather pale in color and sometimes covered by a little pus. Such an ulcer, while rather suspicious, is in no wise characteristic and very often may be mistaken for a malignant process. It is only on histological examination that its true nature can be ascertained.

On histological examination the floor and walls of the ulcer are found to be covered by caseous material beneath which the characteristic tissue composed of epithelioid cells is present. Scattered throughout this are giant cells or typical tubercles. Between the area of ulceration and the normal surrounding tissue is a zone of small round-cell infiltration. Tubercle bacilli are readily demonstrable in the caseous material, and to a limited extent in the underlying epithelioid tissue.

Symptomatology. As a rule the patient in the early stages has little pain. First of all there is some thickening of tissue followed by a gradual ulceration with little discharge. The disease may manifest itself in the young, middle-aged or old.

Treatment. Complete excision, giving the disease a wide berth is naturally the only satisfactory solution.

TUBERCULOSIS OF THE CERVIX.

This is a most unusual condition, and in a period of over eight years we have not seen more than three cases. If situated on the vaginal portion of the cervix it is, of course, visible, but if in the cervical canal may not be suspected. Where present on the vaginal portion the affected area presents a reddened and slightly ulcerated and irregular surface, surrounded by a zone of hyperæmia, and occasionally in this reddened area are a few small slightly raised yellowish nodules—*young*

tubercles. On histological examination the typical tuberculous tissue renders the diagnosis easy.

The symptoms of such a case are in no way suggestive of the condition present. There is usually some leucorrhœal discharge, occasionally blood-tinged, and on digital examination some hemorrhage may take place, but much less than we are accustomed to find where carcinoma is present. Where the disease is limited entirely to the mucosa in the cervical canal the tissue may have undergone complete caseation, and yet there is nothing save the leucorrhœal discharge to suggest any pathological condition.

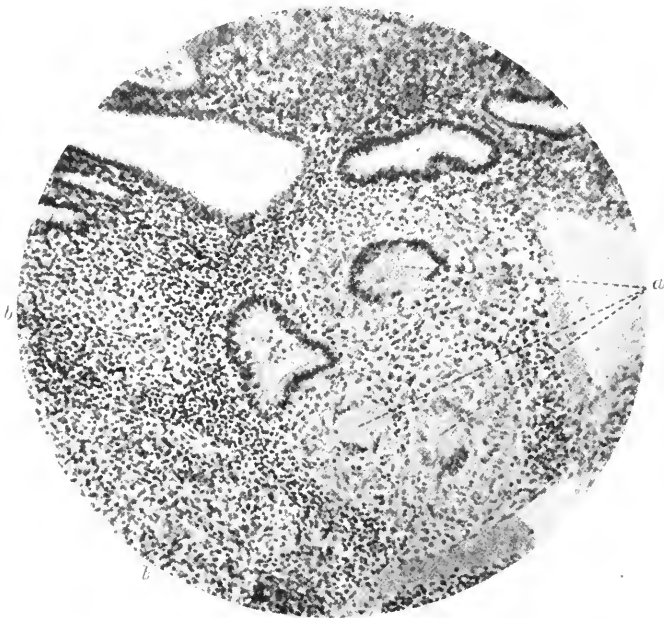
TUBERCULOSIS OF THE ENDOMETRIUM.

During a period of 18 months, although continually watching for mucosa showing evidence of tuberculosis, we failed to find a definite case. However, in the last six years we have encountered over 40 cases. In the early stages the disease is confined chiefly to the mucosa near the uterine horns, and then gradually extends downward, involving the mucous membrane of the entire cavity and occasionally that of the cervix. First small elevations are noticed in the still intact mucosa. They are whitish or whitish yellow in color, and rather firm. In a short time the mucosa becomes slightly ulcerated, the floor of the ulceration is reddish in color, and the margins are slightly raised and often surrounded by discrete tubercles. This process gradually extends downwards and also laterally until in advanced cases the entire mucosa is replaced by caseous material, and the uterine muscle is often involved for half its thickness, and occasionally the process extends as far as the peritoneum.

On histological examination the characteristic picture is present. Where the process is early the surface epithelium of the endometrium is still intact, but over the slightly raised areas is pale-staining and flattened. The uterine glands on the whole present the normal appearance. Scattered throughout the stroma, just beneath the surface, are pale-staining areas consisting of little clusters of epithelioid cells. At other points large or small giant cells lie in close proximity to the glands, and here and there typical tubercles are present. On careful examination we have found that not only the stroma cells but also the gland epithelium takes part in the formation of epithelioid cells. As the disease advances the small tubercles become caseous and show infiltration with many polymorphonuclear leucocytes, while the stroma shows much small round-cell infiltration. The surface of the mucosa gradually disappears, being replaced by an ulcerated area consisting entirely of caseous material beneath which is typical tuberculous tissue. After a

time no trace of mucuous membrane remains, and the tubercles become scattered through the uterine muscle.

Symptoms. There are no distinct signs of tuberculosis of the endometrium. The process is usually secondary to a similar one in the fallopian tube and consequently the tubal symptoms mask the condition present in the uterus. There is usually some leucorrhoeal discharge. Of course examination of the scrapings especially from the vicinity of uterine horns will render the diagnosis certain.



Photomicrograph of a Section taken from the fundus of the Uterus.

Gyn. Path. No. 519. Three uterine glands can be seen. These are recognized by their epithelial lining and by the cavities in their centres. The gland nearest the centre contains some desquamated epithelium. To the extreme left is a dilated gland, along one margin of which the epithelium is still faintly visible. Near the middle of the field three tubercles (*a*) can be seen. In the centre of each is a giant cell. The nuclei of these cells are arranged principally around the margin. Surrounding the giant cells are pale staining epithelioid cells, while scattered throughout the stroma everywhere are small round cells. To the left of the centre in the stroma are two small, pale-staining areas (*b*)—clusters of epithelioid cells.—“Cancer of the Uterus.”—Cullen.

Treatment. In all cases where tuberculosis of the uterus is present this organ together with the tubes should be removed.

TUBERCULOSIS OF THE FALLOPIAN TUBES.

This was formerly supposed to be a rare affection but the observation of Williams and others and our own experience show that tubercular involvement of the tubes is common. Where associated with tubercular peritonitis the tube is usually covered with a mantle of tubercles and this membrane can be peeled off but usually with some difficulty. Small tubercles are in such cases found in the folds of the fimbriae.

Where the disease occurs independent of tubercular peritonitis and is well marked the appearance is typical. The tube is nearly normal in size at the uterine end but on passing outward rapidly increases until near the fimbriated extremity it is two or three times the normal diameter. The surface is reddened, relatively free from adhesions but studding the surface and directly beneath the peritoneum are any small tubercles. The fimbriated extremity although greatly thickened and reddened is invariably free, a condition that is rarely found where such marked tubal disease exists. The fact that the outer end is free instantly suggests tuberculosis. The lumen of the tube often contains caseous material that can be forced out. The tuberculous tube does not always present such a striking or characteristic picture. Sometimes the tube is covered by adhesions, is little thickened and cannot readily be distinguished from a small pus tube. But on gently drawing it between the fingers small shot-like nodules can often be felt. These are tubercles scattered throughout the tube wall.

Histological examination. In the early stages the tubal folds are still intact but scattered throughout their stroma are pale-staining areas composed of epithelioid cells or of giant cells surrounded by epithelioid cells and an outer zone of lymphoid cells. In other words, typical tubercles are present. In these it is possible to demonstrate a few tubercle bacilli. As the disease advances the folds of the mucosa are no longer recognized. The lumen of the tube is filled with young, middle-aged, and old tubercles and the tubal epithelium is so distorted as to resemble small glands. The muscular coats now show islands of tuberculous tissue and small tubercles are abundantly scattered over the peritoneal surface. In the late stages of the disease little or no trace of the mucosa remains. The centre of the tube is filled with caseous tissue and surrounding this is typical tuberculous tissue. Occasionally part of the caseous material becomes calcified. In the caseous material quantities of tubercle bacilli are to be found.

Symptoms. Tuberculosis of the Fallopian tube may occur at any age but is most frequent during the child-bearing period. It may be secondary

to a tubercular peritonitis or to a tubercular process elsewhere or may be primary in character, occasionally being contracted from the husband. The process comes on slowly, may or may not be associated with a moderate rise of temperature and is usually accompanied by indefinite pelvic pains. There are no distinctive signs to differentiate tuberculosis of the tube from pyosalpinx save the examination of scrapings from the endometrium. - If the process be advanced we shall expect to find evidence of the tuberculosis in the uterine mucosa and then the diagnosis is certain.

From what we have learned from the description of the tubes vaginal examination will reveal thickening of the tube usually on both sides together with a diminished mobility.

Treatment.—As the process extends to the ovaries and in advanced cases to the pelvic floor and occasionally to the rectum complete removal of the tubes, uterus and frequently of the ovaries is indicated. This is also necessary where the tubal disease is primary as if not removed general tuberculosis may ensue.

TUBERCULOSIS OF THE OVARIES.

The ovaries are rarely primarily involved. Where general tubercular peritonitis exists they are covered to a limited extent by the tuberculous mantle. If the process start in a tube they are often perfectly normal, occasionally, however, the surface of the ovary is studded with typical tubercles and the characteristic tuberculous tissue is scattered throughout the ovarian stroma. In advanced tuberculosis of the tube both the tube and ovary are occasionally merged into one large caseous mass. Of course there is only one line of treatment where tuberculosis of the ovary exists, namely, complete and prompt removal.

RÉSUMÉ.

Tuberculosis of the tubes and ovaries is rarely diagnosed until the abdomen is opened save where uterine scrapings have been examined.

Tuberculosis of the endometrium has no distinctive symptoms but can be promptly recognized by examination of curettings.

Tuberculosis of the cervix, a rare process, is also easily recognized on microscopical examination.

Tuberculosis of the vagina is recognized with ease with the low power.

Tuberculous tissue wherever situated in the pelvis requires prompt removal.

TUBERCULAR DISEASE OF BONES AND JOINTS.

By HADLEY WILLIAMS, F. R. C. S. (Eng.), Western University, London, Ont.

A glance at this subject, in a general way is all that can be done for a discussion of the differential diagnosis, and the various orthopoedic appliances for the hip and spine would be much too lengthy. In a pathologic sense tubercular disease of bone and joints is local and it should be the endeavor of every surgeon to prevent it from becoming general. We know that a bacillus is the cause, and chooses those parts in bone where the cells are young and rapidly proliferating, namely, the first deposit centre of ossification and the region of the epiphyseal cartilage of the cancellous tissue. It is rarely, if ever, met with in the shaft. Here, ossification takes place about the seventh week of foetal life and is practically soon completed, whereas the extremities of all the bones are never the seat of bony deposit until a separate existence for the child. The lower end of the femur is the first to show ossification, is the only epiphysis in which this condition is found *in utero* and then, but a few days at most, prior to the termination of gestation.

The actual presence of a giant cell in a mass of granulation tissue is not positive evidence of tubercle, for similar cells are found in other inflammatory tissue; neither is absence of the bacillus to the staining process and the microscope, proof that tubercle is not present, for inoculation in a susceptible animal of the products of the mass will cause a general tuberculosis.

Almost without a single exception the tubercular process begins in the cancellous structure of the articular ends of bones, either by a somewhat circumscribed spot or a more general and diffuse infiltration. By irritation of the germ and its products, the infection produces around it a tubercular osteitis. There is at first an increased vascularity, the spaces become filled with inflammatory products, the arterioles plugged with debris and the circulation shut off. The enclosed mass now becomes a sequestrum, constantly irritating the living walls of bone by which it is surrounded. Inflammation proceeds, the bony network gradually breaks down, the mass increases in size, the centre becomes entombed and dead, from the absence of blood vessels, and caseation takes place from necrotic and fatty degeneration. All around granulation tissue fills the hollowed out spaces, the limits of the process become more and more indistinct, the bone in some cases being destroyed to a mere shell as in the tarsus and ends of the femur, little or no fibrous tissue is formed, pus may collect and break through the periosteum or granulations infiltrate and finally ulcerate through the cartilage into the joint. In fact, the

whole process is lacking in the qualities of fibrous and bony repair and hence its extension is favored in those cases not combated by treatment. The collection of pus becoming greater may break either into or outside of, and away from, the joint; the skin becomes thinned, the abscess discharges and a sinus forms. Secondary infection by the common pyogenic organisms is liable to take place and the cold abscess of a tubercular process be converted into a mixed infection with all the dangers of hectic, amyloid disease of the organs and general tuberculosis. Acute abscess never occurs in bone, for the early conditions of its formation would lead to occlusion of the blood supply and cause necrosis. Chronic abscess is only found in the articular ends, usually of the tibia and femur, in youth and early adult life principally, and, in nearly all cases, results from tubercle.

The caseation spoken of as "cheesy" never forms pus. The latter cannot be the result of such a dead mass but is formed only by the living tissue in contact with the sequestrum and infected area. When this takes the form of a circumscribed nodule in the articular end it is usually wedge shaped or, rather, more like a cone with the base towards the surface and the apex embedded in the cancellous tissue; there is no tendency to separate and no ambition to form fibrous tissue or bone. Yet, in some cases, the mass under favorable conditions does become sclerosed and shut off, as an encysted bullet, or finally, be calcified and rendered more or less innocuous. But as a rule the process is a progressive one and eventually leads to all the horrors of pain, suppuration, atrophy of muscle and bone and deformity of limb and spine too often seen by the surgeon. Though tubercle is a local process, insidious and slow, it is still a hot-bed of infection that may, at any time, light up with unexpected energy and, like the metastatic emboli of pyaemia in the system, cause a general and a fatal tuberculosis.

Disease of the tarsus, for instance, in adults, if at all extensive, seems to require amputation where in the young, removal of a part of or a whole bone offers better results. I once removed the foot in a man of fifty-eight, where the disease had apparently remained local. The results of the operation were good but the patient died a year later from phthisis.

Fortunately, general infection is rare considering the large number of cases in which no secondary deposit is present or, at least causes sufficient trouble to be recognized. But it must not be forgotten how residual foci in bone, quiescent for months or years, as in the hip and knee and shut off by a reparative process will under favorable conditions as lowered vitality or injury or both combined, break out and cause abscess and sinuses as of old. The term "caries" is nothing more or less

than gradual destruction of bone with the presence of pus, that is, a suppurative osteitis, and this is the condition present in the majority of all tubercular disease for, if allowed a free hand, it nearly always ends in suppuration. In whatever bones the infective process settles its subsequent course is almost essentially the same but modified as to its termination by the resistance of the individual, the care with which it is challenged, and the success with which it is fought. And it starts in favored situations,—in the upper extremity of the femur either in the new bone which lies close to the epiphyseal cartilage; in the region the centre of ossification for the head, or in the cancellous tissue immediately beneath the encrusting cartilage. But also in some other part, limited to the neck, from which it may extend along the bone and break through the periosteum and form an abscess external to the joint cavity. If in the acetabulum, as may be expected, the process is confined to the “Y” shaped cartilage which separates the three parts of the innominate bone from each other, where the cells are young, and which is analagous to the epiphyseal ends of the long bones. If a vertebra be modified and, by a stretch of imagination, becomes a long bone then the body proper represents the shaft, and the two surfaces, in contact with the intervertebral substance, the epiphyses which, in reality, unite as plates. Here as in the femur, the infective process starts in the intervertebral discs but well to the front of the body.

In no case does tubercle commence in cartilage or ligaments though there is some doubt about the intervertebral substance. The synovial membrane is also the seat of deposit as exemplified in the knee in most of the cases affecting that joint. The course is essentially the same as in bone but modified in accordance with the histological structure of this tissue. The most common is the diffuse variety though the membrane may be the seat of a nodular form or the miliary type. When the cavity is opened the lining synovia has a soft gelatinous appearance, the granulations make the surface rough and shreddy, friable and easily torn away with interspersed spots of caseation. Fluid is nearly always present altered in appearance by the products of tubercular inflammation and containing pieces of granulations and fibrin shreds. If this condition goes on the cartilage is implicated by the exuberant granulations, becomes pitted by softening and breaking up of its fibres, ulceration takes place, the bone attacked and a rarefying osteitis proceeds, as in the primary deposit of the cancellous tissue. The synovial membrane grows thicker and thicker (and to this the swelling is largely due) the ligaments become involved, cold abscess forms in the majority of cases, may discharge and leave a sinus. This is the so-called pulpy degeneration or

white swelling. The joints most frequently attacked are the knee and hip and less often the elbow, shoulder and wrist—the latter having the preference in young adults. In nearly every case one cannot help being impressed with the fact that patients give a history of an injury from which they date the inception of their trouble. Whether the injury itself favors a tubercular deposit or only brings more forcibly to the notice of the patient an already tubercular joint is difficult to decide but, when one considers that the knee, hip and spine are the parts most often implicated and that, in youths, these contain the joints which receive the most shocks from jumping, running and falls, it is rather attractive to suppose that injury of some kind has much to do with the determination of this disease, for doubtless the germ is circulating in the system of many individuals whose powers of resistance to infection are too strong to allow tubercular deposit. The symptoms of this disease are, in many cases, obscure until the formation of abscess and even sinuses.

There is tenderness on pressure over some part of the bone and a tubercular spot may occasionally be located and dealt with. Actual pain is not severe but fairly constant in the early stages and, if synovitis takes place with destruction of the cartilage or apposition of the bony surfaces, often becomes excruciating. Abscess may be the first symptom complained of, the process being so slow and insidious in its progress, and when this takes place there is usually a slight rise of temperature. The tissues are swollen, the contour of the part altered with some redness of the overlying skin, and fluid may collect, especially if connected with a cavity. If a sinus forms, the discharge is at first thin with pulpy granulations springing from the floor, gritty bony particles may come away, and the probe, when introduced, breaks into a soft tissue wanting the solid ring of necrosis. The knee always shows some alteration in shape; there is stiffness, swelling gradually fills up the natural hollows and a sense of weakness to the patient. A hand placed on the joint usually gives a slight increase of temperature and the limb is placed in the position of most perfect rest, slight flexion and rotation outwards. In the older and more advanced cases the tibia is dislocated backwards and thrown outwards, the muscles of the thigh and calf atrophy, the bones, both above and below, become smaller from want of use and good circulation, the patella is often firmly bound down, and contraction and deformity complete the picture.

The diagnosis of extensive and advanced disease of the hip is usually self evident, though not always. It is in the very early stage that a positive opinion is hard to give and a prognosis still harder. Perhaps the first sign is a slight limp, or a short and a long step and, when the child

rests it is on the sound limb. If synovitis be present there is more pain. Flat on the back on a hard sofa and placed in a straight position, the finger of one hand on the anterior superior spine of the ilium while the leg is gradually abducted in the extended position, rigidity will be discovered by the pelvis moving outward with the limb—a valuable sign that should always be sought for. (Rigidity due to the contraction of the psoas moving in extension but be normal when thigh is flexed on the abdomen.) Later, the leg is flexed both at the hip and knee, abducted and rotated outwards, the normal position of rest by relaxation of the ligament. The picture of later stages is well known.

So also, tubercular spine offers many obstacles. Rigidity, as in the hip, is one of the earliest signs and in stooping the patients rest a hand on the knee as a support. Most constant are the gait, attitude (shoulders thrown back if in the lumbar, forward in the dorsal, head tilted in the cervical); belly ache in children and angular deformity. Prone on the table, the ankles grasped and the body lifted, the spine resists over extension. The appearance of an abscess alone is the first indication, occasionally, of anything wrong. When angular deformity is present (remembering that certain spines may be congenitally altered in shape from elongated spinous processes etc.) it constitutes the best and surest sign, for other causes of this condition are counted on the fingers of one hand. They are few and rare.

Fracture dislocation,—the diagnosis of which is self evident; absorption of the bodies from malignant disease; aneurism of the thoracic or abdominal aorta (few are the surgeons who ever saw it); and scurvy, rickets an even still rarer possibility from separation of the epiphyseal discs; syphilitic osteitis may. Practically, then, tubercle is the great cause of angular deformity. Rickets gives a more general curve and easily straightens by bending forwards. Eighty-five per cent of the paraplegias which are a result of pressure on the cord, if seen early, disappear by putting the patient in the prone position and at rest. The most immediately dangerous part of the spine is the cervical region at its upper part on account of the importance of the cord at that point—for the phrenic, straight from the all important respiratory centre, makes its exit with the 3rd, 4th, 5th, nerves on its way to the diaphragm. And since the bodies of the axis and third and fourth cervical vertebrae are very small and the articular processes almost flat, caries is liable to cause a sudden dislocation by the turning of the head, even during sleep. Firm fixation here is necessary. The finger pushed back into the pharynx can always touch the anterior parts of the bodies. If abscess forms it should be opened, by preference, in the neck for by the mouth antiseptic pre-

cautions are unavailable to say nothing of the dangers from pus entering the air passages.

The local treatment of tubercular disease of bone and joints may be summed up by perfect immobility of the part, a conservative attitude, eradication by operation. The limb immobilized by a splint, either of starch or plaster of paris, and long enough to reach beyond the limits of muscular action. Under conservative treatment of the disease we have orthopædic appliances as splints and the like, the congestion method of Bier and iodoform suspended in some fluid as glycerine, called the Iodoform-glycerine emulsion. These three methods, either singly or together, are adopted by many surgeons believing that they offer, in the majority of cases, better results than atypical severe operations. It is best, perhaps, to consider both methods in all their bearings but not to forget there are conditions where the knife and the gouge are indispensable or even an amputation as one would treat a malignant knee, after the best conservative treatment, fresh air, sunshine, rest and good food. And the earlier this is recognized in any case the better for the patient. Without discussing the various methods of destroying the tubercle bacillus in bone and other tissues of a joint, such as the igni puncture, carbolic acid, caustics, etc., the favor is now given to iodoform.

Of all substances this has the most remarkable curative action used say as a ten per cent. glycerine emulsion, sterilized, though this is not necessary for sterilization takes place soon after mixing by the action of the glycerine. Its use is not without an element of danger—a rapid pulse, high temperature, vomiting, fixed eyes and spasms. But, as the walls of a tubercular abscess absorb very badly, this condition is fortunately very rare.

The contents of an abscess or joint are first drawn off with a middle sized trocar and the emulsion injected into every part, a piece of cotton soaked in iodoform-ether applied and held in place by adhesive plaster and a tight dressing to compress the walls of the cavity and allow every part to come in contact with the injection. The trocar, if entered obliquely, forms a valve-like action in the tissues and prevents the escape of the fluid. But on account of the entirely local action of the iodoform, for it does not act at a distance, it seems difficult by this method alone to reach the individual foci or to attack the infected areas of the cancellous bone. The interval before another injection takes place may be at least a week or even two.

One will notice in almost all the incisions made for tubercular disease a keloid condition of the scar and stitch holes which, in regions like the neck and shoulder, become unsightly, a bar to low dresses and a worry to those seeking social advancement. This can be obviated largely

by using the subcuticular method of closing the wound, and silk worm gut answers very well. The congestion method consists in the application of an elastic bandage to the limb up to the joint and again above for several hours daily which aims at the arrest and death of the tubercular foci by an increase blood supply to the parts. Early this may be tried but, later, nothing offers such good treatment as an opening and the use of a gouge or spoon

R. R., boy, age seven. Hip disease. Pus suspected on outer side of joint beneath tensor vaginae femoris. Incision was made in front two inches in length and the abscess reached. An opening in the capsule was enlarged and the focus sought for. A counter incision further back was necessary from which the tubercular softening was more easily reached. This was gouged out, thoroughly curetted with a hot sterilized normal salt solution running under high pressure, the parts packed with iodoform gauze tightly until the stitches were put in, sterilized iodoform glycerine emulsion applied and the incisions accurately sutured without drainage. The articular head of the femur, as far as could be seen, was unaffected, the focus being at the junction with the neck and breaking into the joint from that point. There was an uneventful recovery from the operation and no sign of reformation of abscess. Extension at night and Thomas Splint by day has been the treatment. This case was lost sight of for some time and now, fourteen months after, there is anchylosis with the femur considerably flexed and much lordosis of the spine. Here, as in all these conditions, forcible straightening under an anæsthetic is to be deprecated on account of the liability of the tubercular disease being again set up in the joint by movement. The operation offering the best results is the division of the femur just below the trochanter major which, under strict aseptic precautions, runs the usual course of a fracture.

Resolution taking place in one part of the body, tubercle may show itself in another either independantly or by metastasis. Albert V., a coachman, age nineteen, well marked tubercular arthritis. Opened knee joint by two lateral incisions, curetted the cavity with hot sterilized salt solution (discovered no bone disease by the finger) and used a drainage tube for forty-eight hours; healed without difficulty. A year later there developed a tubercular peritonitis. The knee for over six months had caused no trouble and motion was very good though not perfect. The abdomen was opened in the usual way and again closed. The patient made an excellent recovery and went back to his home in England. In many of the psoas abscesses the bone can never be reached satisfactorily; séptic infection is liable to occur and rapid dissolution take place

Nellie T., age twenty, on arrival in the hospital gave a history of Pott's disease extending over three years. No angular deformity but

scars in lumbar region where an abscess had been opened some months previously—a diagnosis of sacro-iliac disease was at this time favored. A year later she again came under my care with a large lumbar abscess and a small sinus close to the post-superior spine of the ilium. Incision discovered a large cavity extending beneath the gluteus maximus nearly as far as the hip joint, also along the iliac crest and upwards for some inches by the erector spinæ. This was carefully curetted in the usual manner but on account of the patient's low condition could not remove any bone. There was great pain for forty-eight hours; eight days later the stitches gave way and pus discharged in large quantities. The patient weakened rapidly with hectic flights of temperature, and died in ten weeks. The autopsy showed extensive formation of abscess with disease of sacro-iliac joint, pus having worked its way into the pelvis in front of the sacrum. A psoas abscess bulging in the thigh was once mistaken for a reducible hernia in a negro where Pott's disease was never suspected. Phthisis developed later and the dorso-lumbar spine was found to be the seat of tubercular disease. My last case of psoas abscess showed itself on the outer side of the thigh. Here aspiration, under strict asepsis, has been done several times at intervals of about two months in preference to any other method, the dangers of general sepsis being so appalling.

In the following case of tubercular knee, S. P., a barber, age twenty-five, there was a history dating back nine years, during which time rest, plaster casts and other forms of treatment, other than operative had been used. Five weeks previously the joint had commenced to swell and the pain was very severe. When seen in consultation the leg was flexed and rotated outwards, the tibia, which the patient constantly held in his hands to ease the excruciating pain was dislocated backwards, the joint was swollen, dusky in color, tense and evidently filled with pus, and the temperature increased two or three degrees. In short, the picture was one of an acute arthritis. The internal condyle of the femur was very prominent and exquisitely tender. Immediate arthrotomy was advised and the next morning the following operation was performed. Two lateral incisions were carried downwards on either side of the patella and the joint opened. The finger coming on roughened bone over quite an extensive surface the incisions were united in front by division of lig. patellæ and the flap turned up. On flexing the leg the ends of the bones were brought well into view. There were about four ounces of pus, and pulpy granulations everywhere lined the cavity; the articular cartilages were destroyed, the bones carious and cheesy. Some of the tubercular spots in the bone were half an inch in diameter and

penetrated deeply into the cancellous structure. With the knife and scissors the synovial membrane was dissected completely off by going beyond the upper patellar pouch, which was filled with granulations, and working downwards over the end of the femur to the back and sides of the joint. The diseased spots in the articular ends of both bones were gouged out and also others which, at first, were not noticed except by probing the surface. When completed the end of the femur was riddled by holes made with the gouge. The whole joint was then thoroughly curetted with copious quantities of hot sterilized normal salt solution, under high pressure, to remove the clots and debris and stop the oozing of blood. Iodoform gauze was packed tightly into every part until the superficial sutures of silk worm gut were inserted in the skin incisions half an inch apart. The gauze was then removed, two silk ligatures applied to the lig. patellæ, the joint filled with iodoform glycerine emulsion, the stitches tied, and the whole completely closed without drainage. A copious quantity of dry dressing was applied, tightly bandaged and the limb placed on a posterior splint and straightened. The patient as may be expected, prior to the operation, was in a very critical condition, pulse 120 and running up to 140, and the temperature $102\frac{1}{2}$. That evening the pulse was 100 and the temperature $99\frac{1}{2}$, and from that time on never rose above, except the temp. on one occasion for a few hours showing $100\frac{1}{2}$. There was but little pain complained of, and that in the foot, and noedema of the leg. Ten days later the dressing was taken down and the stitches removed. The edges of the capsule were not included in the ligatures but purposely left to allow collections of blood within the joint to escape and prevent tension. To this was due the absence of pain and the ease enjoyed by the patient, for the dressings were soaked to the depth of an inch and formed a hard and firm case. The limb was encased in plaster and showed a good position. One month later a silk ligature escaped from the front. Subsequently no sign of inflammation showed itself, and the patient went home and increased rapidly in weight. A year after he returned complaining of some little pain in the knee at certain times, especially when driving. He had long since removed all support except a flannel bandage, and the limb had become again flexed so that the big toe just touched the ground in the erect position. The muscles of calf and thigh were much atrophied and the tibia smaller than on the sound side. As the patient could not bear much weight, and on account, more particularly of the position and atrophy rather than pain which was very slight in character, he desired amputation. An examination showed not the slightest sign of tubercular trouble, tenderness, swelling, or increased temperature, and it

was unfortunate that the limb should have been allowed to resume its old position. Losing sight of patients after such operations is a source of regret, for failure often follows where success should have been obtained. Not satisfied to destroy what was considered a good result the patient was coaxed to allow an excision. This being refused, amputation above the knee was performed. The joint cavity, on dissection, was obliterated and the opposing surfaces united by strong and numerous fibrous adhesions, the cavities made in the bone by the gouge a year before had completely filled with fibrous tissue and no sign of tubercle anywhere. Had a thin slice of bone been removed from each surface at the former operation, there is not the slightest doubt bony union would have taken place (as was expected from the amount gouged out at the time) and the patient have had a useful though somewhat atrophied limb. He is now healthy and strong. In contrasting the conservative treatment from one of its greatest advocates, the Breslau clinic, with the atypical operations (speaking generally of the hip and knee as being the two joints mostly affected, and which hold for the patient most serious consequences) the following good results were obtained.

Congestion method.....	66 per cent.
Iodoform glycerine.....	82 per cent.
Combined.....	75 per cent.
Atypical operations.....	58 per cent.
Operation and iodoform.....	60 per cent.

Out of 235 cases, 70 per cent showed good results (always more favorable in the young than the old), but "cured" does not mean good movement in all, probably not more than 1-5 recovering with excellent functional activity. The above table shows the "Iodoform Glycerine" method as giving the best results.

Of the operations, only a little over a half were successful, but many of the bad are due to the severity of the cases and secondary infection from want of asepsis. Every cold abscess when opened should be undertaken with strict aseptic precautions, whether by trocar or incision, and accurately closed, or fistulæ with tubercular walls and mixed infection will undoubtedly occur.

Speaking of the knee, König gives 84 per cent good results after arthrectomy, 75 per cent after excision, but though König shows a higher percentage than the best conservative treatment, the actual good results as to the nobility are much less, so that these disadvantages of the operative treatment must be taken into account. Then of the bad results many die from shock, sepsis &c where, in the conservative methods,

the risks of life are perhaps on the average not more than 6 per cent the operative 15 per cent to 20 per cent.

In the hip, where all treatment, is less satisfactory than in the knee, Schede given 60 per cent and Riedel 62 per cent of cures, from atypical operations, whereas the conservative treatment at Breslau shows 75 per cent to 80 per cent. Excisions having the high mortality of over 40 per cent to say nothing of the shortening of the cases in which good results were obtained. Generally, then, where conservative treatment in the hip shows better results than operations, in the knee the tables are turned. It seems therefore that, while the conservative methods leave better results on the whole and are certainly not nearly so actively dangerous to life, the operative procedure takes a much shorter time in the treatment, but is more fatal.

In no part of the body is excision so well indicated as in the knee (a thin slice with gouging answers as well as extensive removal) especially where the patella is bound down, the quadriceps and other muscles atrophied and useless. It is a surprise to all how many of the former so-called "strumous" and "scrofulous" cases recovered without any really practical treatment whatever except rest, good hygiene and a resistant constitution—but, to-day, with well marked symptoms, and wherever possible under strict aseptic precautions to prevent the entrance of common pus organisms, incision with removal of the infected areas freely with the gouge, curettage with ample quantities of hot, normal saline solution under high pressure, iodoform emulsion and accurate suturing without drainage (except in special cases) offers the quickest removal of the tubercular material from a part and, surgically, has a more scientific principle involved than any other treatment since (and this is a most important feature) it aims at the total eradication, and not alone the suppression, of the tubercular process.

TUBERCULOSIS OF THE ALIMENTARY TRACT.

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THE tendency shown by tuberculous disease to almost uniformly attack certain portions of a given system while sparing others is very marked when the disease invades the alimentary canal. In the latter, indeed, this peculiarity is so pronounced that certain portions of the tract afford nearly all the instances of the lesion, while the remaining portions, when diseased, may almost be regarded as clinical curiosities.

The regions so exempt are the mouth, œsophagus, stomach, and, to a less degree, the duodenum and jejunum. This exemption is due to different causes. In the mouth and œsophagus it is probably due to the constant mechanical disturbance, which does not allow the virus sufficient time to obtain a foothold, while in the stomach, the bactericidal element in the gastric juice (muriatic acid), and also the paucity of closed follicles, such as are in the bowel, are the preventative factors.

In the following consideration it will be convenient to divide the alimentary canal into four divisions, and by describing the disease as it affects each one separately, the feature above referred to will be more clearly shown. The regions referred to are the mouth, œsophagus, stomach and bowel.

(a) Tuberculosis of the mouth, while not so rare as tubercle of the œsophagus and stomach, is nevertheless a rare disease. As might be expected in the majority of the cases, it is secondary to pulmonary and laryngeal disease, yet a fair proportion of cases appear to be primary. The infection may be brought to the mouth either by food, foreign bodies or sputa. The disease may occur in young persons, but the majority of the cases are between the fortieth and fiftieth year. It is found five times as often in men as in women, the result probably of habits in the former, such as smoking, etc. Both in the character of the lesions and in their situation great variation is shown, all parts of the oral cavity being attacked at one time or another.

Lupus forms a considerable portion of the examples. It may extend directly into the mouth from the face, but is often primary, the favorite sites being the free borders of the lips, along the upper jaw or the roof of the mouth. When fully developed it presents a shallow ulcer, with thin, sharp edges, surrounded often by a number of smaller ulcers, and beyond these again isolated tiny nodules, but when the disease is situated on the gums, these become swollen, red and spongy, with more or less ulceration, usually in angle of junction with the lips. If the frænulum is attacked, this, along with parts of the mucous membrane of the

gums, becomes partly detached forming a row of papillary excrescences along the margin of the linear ulcer, which gives a very characteristic appearance. The process may extend to the deeper tissues and cause exfoliation of bone or, very rarely, even perforation of the palate, in this respect resembling syphilis. As in the skin, lupus here runs a very chronic course, lasting often for many years. It may, in time, destroy the uvula and extend into the pharynx and over the tonsils, causing in severe cases very great destruction in all parts of the throat. Frequently there is some swelling of the neighboring lymphatic glands, chiefly those in the submental region and at the angle of the jaw or down the neck. Usually, in this form of the disease, lung symptoms are absent or appear late in its course.

The soft palate, the pillars of the fauces and posterior wall of the pharynx may also be the seat of ulceration in those who are suffering from chronic phthisis. These ulcers are small and shallow, with sharp irregular edges, surrounded by a zone of dark red color. They are usually multiple and resemble apthae, but are distinguished from the latter by their chronic course and the surrounding redness. The tendency for them is to spread superficially and somewhat rapidly, but they soon yield to treatment.

Lingual tuberculosis occurs in two forms, either as a solitary nodule in the substance of the organ with little or no evidence of the disease elsewhere, or as a widespread and destructive ulceration coming on in the latter stages of phthisis. The former consists of the formation of a small, irregular, hard nodule, situated immediately beneath the epithelium on the dorsum or edge of the organ. After a time the epithelium overlying the nodule is destroyed, leaving a small, irregular ulcer with apparently undermined edges and infiltrated floor. Those ulcers which are situated at the edge and while extending deeply into the substance, appear externally only as narrow slits are called "rhagades." From such a point the process may soon spread in other directions, especially over the dorsum, in time giving rise to a large, irregular, shallow ulcer, covered with a dirty yellowish secretion, and having a number of lupus-like nodules in its neighborhood. This form which runs a chronic course and with which signs of disease elsewhere are scanty or absent, is termed the "benign form of lingual tuberculosis."

The more rapid and severe form of the disease occurs late in the course of phthisis and is characterized by the formation usually of more than one ulcer especially on the under surface of the tongue, which surface in the previous form, is nearly always spared. The ulcer forms on

a densely infiltrated area and is characterized by a rapid and extensive destruction of tissue.

Surrounding the ulcers are numerous tubercles in various stages of formation, while the whole affected area is of a dark red color. The angles of the mouth, the lips and the pharynx, may also be the seat of similar lesions, the destruction is great, and in the latter the whole pharynx and root of the tongue may become involved. When on the lips and angles of the mouth, there is often no infiltration or tubercles, but simply a deep, rapidly-eating ulcer with irregular and undermined edges. Apart from the above, there are many transitional forms, one merging into the other or a benign form becoming more active.

Diagnosis.—The presence of tubercular or syphilitic disease in other situations may often determine the nature of the lesions in the mouth, but in lupus and the benign form of lingual tubercle, these are often wanting and it may be very difficult to exclude carcinoma or syphilis. In the former the enlargement of the glands is somewhat different to that of tuberculosis, the glands being smaller and harder; moreover, the glandular involvement in tubercle may extend farther down the neck and also be present on the opposite side, a condition which does not obtain in carcinoma.

Michelson, quoted in the "Twentieth Century," gives the following points in the diagnosis between tuberculosis and syphilis:

- (1) Possible presence of evidences of tuberculosis or syphilis elsewhere.

- (2) Marked swelling of neighboring lymphatic glands is very rare in tertiary syphilis and common in lupus of mucous membranes.

- (3) Gray or grayish yellow spots the size of a pin head or less, often surround the infiltrated or ulcerated area and these sometimes ulcerate giving rise to a number of small ulcers about the large one. Such appearances are never present in syphilitic lesions.

- (4) Inflammatory appearances such as redness and swelling are usually but not always more marked in syphilitic lesions than in tubercular. Tertiary specific lesions have a greater tendency to extend into the depth and their edges are sharply defined.

- (5) Tuberculosis of the mouth and pharynx is often associated with tuberculosis of the larynx and rarely with that of the nose, while syphilitic ulceration of the mouth is more often accompanied by syphilis of the nose and only exceptionally with laryngeal syphilis.

It may be necessary to resort to the injection of tuberculin to decide a given case. Small doses should be given at first to avoid danger, although these are sometimes not followed by a reaction. The saliva does

not usually contain bacilli but these may be obtained in some forms by staining a deep scraping of the ulcer. In lupus and the benign forms they are usually absent. Pain is pronounced in proportion to the ulceration and is most marked in cases of lingual disease. Eating in such cases increases the pain and often the speech is slow, labored and lipping.

Prognosis.—In lupus and the benign form the prognosis is good both for local recovery and for life, as in these forms evidence of tubercle elsewhere is often slight or absent. Cure in such form may after be accomplished in a few weeks. In the rapidly spreading disseminated forms the outlook is hopeless especially as it is nearly always complicated by extensive disease in the lungs. Indeed this factor must qualify the prognosis in all cases.

Treatment.—The small ulcers on the dorsum or edge of the tongue may often be cured by several applications of strong lactic acid solution (up to 50%) or iodoform paste well rubbed into the ulcer. In lupus and the more extensive lingual forms surgical measures may be required. These consist in the thorough use of the sharp spoon with or without the subsequent use of the Paquelin cautery. When however the disease is very extensive involving most of the pharynx and nose for example, or if the general health is much impaired from the pulmonary condition then surgical interference must give place to local applications to promote healing and relieve pain. Here again iodoform powder dusted on will give the best results. Lactic acid is also of use in cleaning the ulcer and relieving pain. In severe cases where on account of pain eating is seriously interfered with, the use of morphine or cocaine may be required, the latter with some caution on account of the weakened condition of the patient.

Oesophageal Tuberculosis.—Tuberculosis limited to the oesophagus is unknown. Even when the disease is well marked elsewhere in the body, it is exceedingly rare in this situation. In a series of two hundred and fifty autopsies on cases of chronic tuberculosis, Frerichs, found but one instance.

Flexner in an article on this subject in Johns Hopkins Bulletin, Jan. and Feb., 1893, describes an instance which he met with and also gives an account of the other undoubted cases which has been recorded. He shows that the lesion in the oesophagus is most frequently secondary to disease in neighboring structures, viz., caseous bronchial glands, abscess arising from caries of the lower cervical and upper dorsal vertebrae, and finally ulceration extending from the pharynx. Six cases were due to tubercular bronchial glands rupturing into the oesophagus and had ulcers varying in size from a hemp seed to an inch in the longest

diameter. In one case there were eight small perforations, close together, each opening into adjacent caseous glands. All the ulcers were sharply defined with the mucous membrane at the edges undermined. Extension of ulceration from the pharynx occurred twice, once causing stricture which was recognized during life. Three times abscesses from the lower cervical, fifth and sixth, and upper dorsal vertebrae opened into the oesophagus. Stricture, in one case the result of swallowing an acid, and in another, caused by the thrush fungus, was a predisposing cause, and determined the sites of the ulcers. These were multiple and as in all the cases except those due to carious vertebrae, were accompanied by numbers of submucous tubercles usually most numerous near the ulcers, but occasionally situated at a distance.

The foregoing cases are all examples either of direct extension from a neighboring structure or of a previous traumatism which was doubtless the predisposing factor in causing the lesions. Indeed, it has been held by some observers that a previous injury was essential to the development of the disease in this situation.

Five cases, however, in which none of the foregoing conditions were present disproved this, and show moreover that the oesophagus while relatively, is not absolutely immune. Of this group there was one instance of miliary tuberculosis of the organ occurring as part of an acute general infection. The remaining four cases including Flexner's, showed ulcerations either single or multiple and with numbers of small tubercles scattered about their margins. In Flexner's case, the patient, a woman aged 33, was operated upon for left sided pyo-pneumo-thorax. Immediately after the operation, she vomited some of the foul smelling contents of the pleural cavity. Subsequently portions of the ingesta escaped on irrigating the opening in the chest wall. At the autopsy, two small ulcers were found in the oesophagus, involved the mucous coat only, the other had perforated the entire wall and opened into the diseased cavity. Their edges were undermined and numerous small tubercles were found in their bases and extending for some distance beyond especially into the submucosa. In addition to the lesions in the oesophagus, both lungs were extensively diseased and indeed a small tubercular cavity had also ruptured into the left pleural cavity. It is worthy of note that in all the foregoing cases, there was extensive tuberculosis of other organs; always of the lungs and frequently of the bronchial glands, larynx, etc. From the above, which comprise nearly all the instances recorded, it will be seen that the condition is a very rare one, especially when we exclude those cases in which it is due to direct extension from an adjacent-structure.

Clinically, the condition, while interesting, is not of much practical

importance. The diagnosis has been made during life from the onset of pain and difficulty in swallowing, occurring in the course of a chronic tuberculosis of the lungs or glands. These symptoms, while suggestive under the circumstances, would not, however, be conclusive, as aneurysm or tumors due to other causes might give rise to the same phenomena.

Gastric Tuberculosis.—The stomach shares with the oesophagus in the relative immunity from tuberculosis. Two reasons have been advanced for this: the comparative absence of closed follicles in its walls, and the possible germicidal action of the gastric juice. That the latter cannot, however, be the most important factor is shown by the fact that the gastric juice does not kill the tubercle bacillus; moreover, in the duodenum, when the gastric juice is neutralized, tubercular disease is also uncommon. The consensus of opinion is that the absence of such structures as Peyer's patches and solitary follicles is the most potent factor in the prevention of the disease. This exemption, however, does not apply to the stomach in its entirety for in cases of general miliary tuberculosis the serous coat, and even the muscular coat, are frequently studded with grey and yellow tubercles. Several instances of this have been met with in St. Michael's Hospital, one being a very marked example. The patient, a man aged 36, died of tuberculosis meningitis. At the autopsy the entire peritonum was found to be thickly covered with single and conglomerate tubercles. The condition was most evident in the mesentery of the small intestine, on the rectum and sigmoid flexure, the under surface of the liver and the anterior wall of the stomach. In these situations the peritoneum was so crowded by single tubercles and coalesced groups of these that the areas felt as though thickly powdered with sand. Two other instances merely showed twenty or thirty small tubercles scattered irregularly over the surface of the organ.

It is when we look for lesions of the mucous membrane analagous to those that occur so frequently in the bowels that the immunity of the stomach becomes so striking. At Munich in a series of 900 autopsies there were four cases. Another series of 108 autopsies on tubercular subjects revealed but one instance. About thirty cases in all have been reported, but in nearly one-quarter there is some doubt as to the tubercular nature of the lesion, the descriptions given being insufficient to permit of a positive opinion. The ulcers may be single or multiple, and vary in size from one-quarter inch up to two inches or more. When there is but a single ulcer, it is usually, but not always, found in the pyloric region. It resembles very much the oval or round ulcer of the intestine, having a raised, hard and often undermined edge, and with

more or less numerous tubercles scattered in the floor and around the periphery. Usually the floor is formed by the muscular coat, which is more or less infiltrated with lymphoid cells, and may show granular changes. In a large proportion of the cases the lesions are multiple, and may either consist of several round or oval ulcers, similar to what has just been described, or of a large number of irregular sized and shallow losses of substance, involving the mucous membrane only.

Three cases described by Dr. Alice Hamilton in the Johns Hopkins' Bulletin, April, 1897, illustrate this very well. The first was a woman, dead of extensive tuberculosis of the lungs and intestines. In the stomach were about 120 ulcers, distributed over the whole surface. They were round or oval, with thickened or undermined edges. Microscopically, tubercle bacilli, lymphoid and epithelioid cells were found in the edges and floors of a number that were so examined. The second case was a man dead of pulmonary tuberculosis, but with no intestinal ulceration. There were 75 ulcers in the stomach. They are described as irregular and worm-eaten in appearance, many of them involving the mucous membrane in part of its depth. Here, too, epithelioid cells and tubercle bacilli were found on microscopic examination. Dr. Hamilton points out that in this case the naked eye appearances were not those of tubercular ulcer, and suggests that possible hemorrhagic erosions of the mucous membrane preceded and determined the invasion by the tubercle bacilli; indeed in this respect the case would be similar to two of the cases of oesophageal tuberculosis.

The third instance occurred in the body of a girl, dead of widespread pulmonary and peritoneal disease. Numerous small ulcers were found in the small intestines, while the duodenum and the caecum each presented a large characteristic ulcer, with caseating tubercles. Both the serous and mucous coats of the stomach were also affected, the former being covered with miliary tubercles, and the latter presenting two large ulcers midway between the cardia and pylorus, on the lesser curvature. The largest was $1 \times \frac{2}{3}$ inches in size, and both had raised undermined edges, with numerous caseating tubercles in the floor and immediate neighborhood.

As in the oesophagus the disease is always secondary to tuberculosis elsewhere, the lungs constantly and other organs frequently. A curious fact however, is that quite often the remainder of the alimentary canal escapes, as, for example, of fifteen cases five showed no lesions in the bowel. From the rarity of the disease, especially when it is considered how often it is exposed to attack by the swallowing of tuberculous sputa; the natural immunity of this organ must be very great. Why this immunity

should from time to time be broken down is not clear though two conditions have been thought of as bringing this about, viz., lessening of the HCl. in the gastric juice, or the presence of superficial losses of substance the so-called hemorrhagic erosions. The latter are not uncommon and occur in the course of many debilitating and cachectic conditions.

Clinically what was said of oesophageal tuberculosis is also true of the gastric form. Death usually occurs from the attendant disease in the lungs or bowel, and the symptoms of these mark those from the stomach. Marfan quoted by Hemmeter speaks of perforation having occurred six times in fourteen cases. In three of these it was through a tuberculous gland. In three cases death was caused by hemorrhage from an eroded artery in the floor of an ulcer, and in another the fatal issue was brought about by peritonitis following perforation. While in a number of instances the condition has been suspected during life and the suspicion confirmed at autopsy; nevertheless, in absence of perforation or hemorrhage, the condition could not be diagnosed with any degree of certainty owing to the frequency with which gastric symptoms complicate pulmonary phthisis, these being due not to ulceration but to catarrhal and inflammatory changes, the result of the general malnutrition.

TUBERCULOSIS OF THE BOWEL.

Pathology.—The intestinal canal may become the seat of tuberculous disease in three ways.

1. By direct extension of the process from a neighboring organ or tissue, for example, an abscess from carious vertebrae may rupture into the bowel causing a localized tuberculosis, at the point of opening. Caseous mesenteric glands sometimes become adherent to some part of the tract and may even ulcerate into it, and finally tuberculous perinephritic abscesses not uncommonly open into the colon. One interesting case of this came under observation in St. Michael's Hospital. The patient aged ten was admitted suffering from tuberculosis of the bladder and right kidney and an abscess formed about the latter which was opened in the posterior aspect of the right side. About three weeks later while changing the dressings, there was found a quantity of the ingesta—seeds of fruit curds of milk, etc. This continued and increased to such an extent that it was impossible to maintain the nutrition and the child died in rather less than a month.

At the autopsy in addition to the disease of the kidney and bladder, there was found a number of nodules scattered through the lungs. The most interesting find, however, was a perforation in the duodenum at the

junction of the second and third portions. The opening was large enough to admit the tip of the little finger and allow a free communication with the abscess cavity and its edge inside the gut was for some distance infiltrated and presented a number of tubercles.

2. As with other organs, the intestines may be the seat of miliary tubercles in the acute general form of the disease. The tubercles are scattered over the serous coat and also in the wall of the bowel. Usually the peritoneum suffers in company with other serous membranes but occasionally the condition is limited, the infection occurring by way of the intestines and its lymphatics and not as in the first instance through the blood stream. Such an infection of the serous coat may occur with or without a gross lesion in the bowel. In the absence of ulceration of the intestine the bacilli pass directly from the bowel into the lymphatics and mesenteric glands and from thence invade the peritoneum. This form is rare and found mostly in children.

Clinically miliary tubercle of the intestines gives rise to no symptoms unless complicated with peritonitis or catarrh of the mucous membrane, in which case the symptoms are those of the latter conditions.

3. TUBERCULOUS ULCERATION OF THE BOWEL.

This form constitutes the overwhelming majority of the examples of the disease; moreover from the fact that it is found in 50 per cent. of those dying of chronic phthisis, it is one of the more common lesions found in the P. M. room.

Though it is possible that infection by way of the blood may give rise to ulceration, nevertheless, in practically all cases this is caused by bacilli which are swallowed either in food or most frequently in phthisical sputa. The condition may be primary and limited to the intestine, but it is usually secondary to pulmonary or laryngeal disease attended with expectoration.

Primary occurrence in the bowel is rare, being found mostly in children, hardly ever in adults. It is in such cases that the organism gains access to the body with the food, more particularly milk, butter and meat. Though the healthy mucous membrane is no doubt frequently attacked, the presence of catarrhal and ulcerative conditions due to other causes, are predisposing factors in many cases. These conditions are not uncommon in the course of chronic phthisis, and indeed are not seldom found in such cases, no tubercle bacilli being present.

Though no part of the bowel is as rarely affected as the stomach or oesophagus, nevertheless, some portions so often escape whilst others are extensively diseased, that they may almost be considered exempt. By far

the most common site of the disease is the lower part of the ileum and the caecum, from which point upwards, it gradually becomes rarer until finally in the duodenum, tubercular ulcers are but seldom seen.

Passing downwards ulceration of the colon and rectum are by no means uncommon and indeed they may be extensively diseased, even in the absence of any lesion in the ileum. Also it is not to be forgotten that the process may be practically confined to the appendix.

In contrast with the ulceration of typhoid, both perforative peritonitis and hemorrhage are rare. This is due to the comparatively slow progress of the disease which permits of the formation of protective adhesions in the one case and of thrombosis of vessels in the base of the ulcer in the other case.

Even when acute general peritonitis does complicate such a case, it is not necessarily due to a gross perforation but may be caused by the passage of organisms through the diseased wall of the intestine. While, as is mentioned in the paragraph on the morbid anatomy, the tendency is for the ulceration to advance, there may be some attempt at healing, which may give rise to some degree of stricture; but owing to the large calibre of these, and also to the fluid character of the contents of the bowel, such conditions seldom cause symptoms during life.

Morbid Anatomy.—In miliary tuberculosis of the intestine, numbers of grey or yellow tubercles are scattered over the various coils of intestine. If the eruption is very pronounced, numbers of neighboring tubercles may coalesce, giving rise to small irregular raised plaques, which in color and density may almost resemble hyaline cartilage. In acute cases in addition, the intestinal peritoneum may be here and there much injected, having a bright red or pink color with some loss of lustre due to a fine granular deposit of fibrin.

In ulceration of the mucous membrane the first change consists of swelling and induration of the solitary follicles or portions of Peyer's patches. Caseation takes place in the centre of these areas with destruction of the overlying epithelium, and so gives rise to a small ulcer with hardened and raised edges. These gradually extend and fuse with neighboring ulcers, until a large irregular patch with thickened overhanging edges and granular caseation floor is formed. The infiltration extends through all the coats of the bowel, even to the serous, which may present at that point appearances varying from slight loss of lustre to fully developed tubercles, or adhesions to contiguous coils of intestine. From such a spot, too, chains of tubercles, or hard and thickened lymphatics, may be traced running into the mesentery.

As a rule, while these large ulcerated areas are very irregular in outline, their long diameter is transversed to that of the bowel, though they

may be, however, round or oval. The tendency is for the lesions to advance, so that in a well developed instance the whole of the lower end of the ileum, the ileo caecal valve and the caput coli, may be converted into a large ulcer, with here and there strips, or small islands of normal mucous membrane projecting from its floor. More rarely the entire colon to the anus may be in a similar condition. Rarely, also, the lesion may be confined to the appendix, causing thickening and injection of that structure as a whole, with ulceration at its orifice and interior.

Clinical History.—Many of those dead of chronic phthisis present post-mortem well marked ulceration of the bowel, of which there was no signs during life. Especially is this true if the lesions are confined to the small intestine. When, however, the disease gives rise to symptoms, these consist of more or less diarrhoea and abdominal pain, coming on in the large majority of instances in the course of a chronic pulmonary phthisis.

Indeed, in adults, the pulmonary symptoms are usually pronounced, but in young subjects they are more often absent or slight. The diarrhoea is usually obstinate and severe, the stools liquid, and very offensive, frequently containing undigested food, and occasionally tinted with blood. The number of motions may vary in number from four or five a day to ten or more. Abdominal pain and tenderness, while usually present, are not, as a rule, severe. The former is mostly described as intermittent and cutting, though sometimes it is dull and cramp-like in character. Tenderness is generally diffuse, or it may be most distinct in the umbilical region, or it may be slight or even absent. When very marked it points to involvement of the peritoneum. On inspection and palpation the abdomen is usually concave, and if tenderness is present, is firm and resistant. Occasionally the vermicular action of the bowel may be observed. The temperature is generally moderately and irregularly elevated, but has no characteristic curve. Occasionally there may be chills, with higher degrees of fever without any special cause to account for it.

As with all protracted diarrhoeas, general emaciation and dryness of the skin are marked features. Gastric disturbances are common, anorexia and distress after eating being usually present. Gradually increasing asthenia and exhaustion are the causes of death in the majority of cases, though sometimes it is due to an attack of acute peritonitis, either with or without perforation. More rarely haemorrhages may be the immediate cause.

Diagnosis.—Given a pulmonary or peritoneal tuberculosis, persistent diarrhoea and abdominal pain usually point to ulceration of the intes-

tines. It is not to be forgotten, however, that the later stages of pulmonary phthisis are often complicated by a diarrhoea even in the absence of intestinal lesions. Especially is this the case when large cavities with abundant foul secretions are present. Here the diarrhoea is septic in character and has been termed "colliquative."

Digestive disturbances or excessive doses of cod liver oil, during the course of phthisis may also cause a diarrhoea which might be mistaken for that of ulceration, but the character of the stools, however, should prevent error. Abdominal tenderness and diarrhoea may be caused by a peritoneal tuberculosis with amyloid disease of the intestine, no ulceration being present. In such a case the presence of blood in the stools would, however, point to ulceration.

The greatest difficulty will arise in those cases in which pulmonary symptoms are absent or slight. In adults it is rare and so other possible causes of diarrhoea must be always carefully excluded. Ulcerating malignant disease of the rectum and colon especially is to be borne in mind. The emaciation, cachexia and diarrhoea, all may be present and closely simulate tuberculous ulceration. In such a case careful examination of the rectum might reveal the presence of an ulcerating growth or a tumor might be detected on palpation along the course of the colon.

Indeed in all cases of chronic diarrhoea, digital examination of the rectum should not be omitted as apart from malignant disease, both tubercular and dysenteric lesions may sometimes be reached.

The following case which we have under observation will be useful as an illustration of the difficulties which may be presented. A woman, aged 47, was admitted to St. Michael's Hospital suffering from severe diarrhoea with some abdominal pain and tenderness. The motions were liquid, very offensive and numerous, occurring every half hour or oftener. Emaciation and cachexia were very marked and there was some rise of temperature. There were no physical signs in the lungs, and examination of the rectum revealed nothing. The attack had come on ten weeks before, rather suddenly, being preceded for a few days by some abdominal pain, and since the onset she had steadily grown worse. Her personal and family history was good, except that she had nursed two grown up children, and her husband, all of whom had died of tuberculosis, the latter about six months previously. She remained in hospital about six weeks and was discharged much improved, the diarrhoea being limited to two or three stools a day, pain absent, temperature nearly normal, emaciation and pallor much less pronounced. Two weeks before leaving hospital, a well marked stricture was discovered about two inches up the rectum. It was not small enough to give rise to any symptoms, but this

was due partly to the consistence of the stools. Tubercle bacilli were not looked for. She reports continued improvement, being able to do much of her house work.

In young children a positive diagnosis must be made cautiously as many cases of "consumption of the bowels" prove to be gastro-intestinal catarrh with some bronchitis. In such a case there may be rales in both apices, with diarrhoea, abdominal distension, emaciation and some fever. Rickets, intestinal worms, teething and unsuitable foods are the points which commonly require careful attention before arriving at a conclusion. Abdominal distension, high fever, enlarged mesenteric glands, and severe emaciation indicate tuberculosis. Finally it may, notwithstanding every case, be impossible to make a positive diagnosis without repeated and careful examination of the fæces for tubercle bacilli.

Appendicular Form.—Special reference must be made to those cases in which the disease appears to be primary and limited to the appendix or its neighborhood. Such cases resemble very closely the sub-acute and relapsing form of appendicitis or typhlitis. In two such cases operated upon in the hospital as simple appendicitis, the wounds refused to heal, leaving unhealthy granulated sinuses. After a period of some months, one developed tubercular peritonitis and finally succumbed to an acute peritonitis following operation for intestinal fistula.

The other had numerous tubercular abscesses form in the abdominal wall and flank, leaving the whole region riddled with sinuses, causing hectic and exhaustion which finally ended life.

Prognosis.—The prospect for complete recovery is bad. It is very doubtful if such a thing is known. Nevertheless, in adults a number of cases run a chronic course which may last two years or more. In two cases which came under our observation the course was over a year and death was finally due to the pulmonary condition; but in neither case was the diarrhoea severe.

The possibility of acute or chronic peritonitis, and also of hemorrhage must be considered when giving a forecast.

Treatment.—Apart from measures to improve the pulmonary condition, the treatment is directed mostly to check diarrhoea and relieve pain. The food should be carefully ordered and should be nutritious, and easily digestible, with as little residue as possible. Peptonized milk, koumiss concentrated beef extracts, broths, etc., will constitute a large part of the nourishment. When the diarrhoea is not severe, or when some improvement has occurred, semi-solid food may be given, as for example, finely minced fresh fish, rare done roast beef, well chopped up. To these may be added corn starch, rice pudding, or even a little mashed potato. For the

control of diarrhoea the B. P. pil plumbi cum opio, as required, is very useful, or large doses of bismuth with 1/16 grain doses of morphia may be tried. The vegetable astringents such as catechu and kino with acid sulph. aromat. are also of service. If the stools are very offensive and the temperature high, showing the presence of numerous putrefactive organisms in the bowels, it may be a good plan to give a calomel and saline purge followed by some intestinal disinfectant and sedative; perhaps the most generally satisfactory being 20 or 25 grains doses of salicylate of bismuth with small doses of morphia. This has been found very reliable in the hospital. Creasote not alone checks fermentation, but perhaps prevents infection of new areas.

Burney Yeo has recently reported the successful treatment of tubercular peritonitis by iodoform ointment inunction into the abdominal wall and this led to its employment in the case above mentioned. Whether *post hoc* or *propter hoc*, the improvement dated from that time. In view of the simplicity of the measure and the reasonable possibility of at least affording some relief, it certainly deserves a trial.

Haemorrhage and acute peritonitis are to be treated the same as when due to other causes.

GENITO URINARY TUBERCULOSIS.

BY GEO. A. BINGHAM, M.B.,

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SO far as statistics are available uro-genital tuberculosis is secondary in two-thirds of all cases (Herberg). This circumstance must, of course, limit the scope of the surgeon in the treatment of the condition. At the same time it should make us more alive to the importance of an early diagnosis of the primary condition and a radical treatment thereof. Primarily, the disease is more likely to attack the genital, rather than the urinary organs. This may be due to the fact that the genital organs are more exposed to diseases and conditions which tend to reduce their resisting power, and favor the development of tuberculosis. Thus, in a patient with a bad family history, I have seen tubercular epididymitis follow a severe attack of gonorrhoea. Direct trauma to the testicle or prostate may result in a similar development in one predisposed to the disease. It also appears that direct infection during coitus is possible (Fournier). Then, again, the great circulatory disturbances to which the genital organs are subject during the active period of life would seem to

render them more susceptible to invasion by the tubercle bacillus. A somewhat analogous example is seen in the tendency of the disease to attack the epiphyses of long bones during the developmental period when circulatory changes and activities are greatest.

Once the disease has invaded any part of the uro-genital tract, the tendency is, sooner or later, to spread by a-cending or descending infection to other portions of the tract.

The prognosis in the vast majority of cases is decidedly bad because (1) the diagnosis is not made early enough; this is more particularly true in chronic renal tuberculosis, where the progress is peculiarly insidious; (2) the disease is often bilateral at the outset, or rapidly becomes so, thus precluding radical measures; (3) the disease is usually secondary to tubercular deposits elsewhere and the efforts of the surgeon are, therefore, merely palliative.

The cause of death may be exhaustion from cystitis or renal insufficiency, or the development of cachexia.

Renal tuberculosis—The chronic form of the disease is the only one that concerns the surgeon. Here it is of the first importance to find out if the condition (1) is unilateral or bilateral, (2) is primary or secondary. Primary renal tuberculosis is usually unilateral at first, but later on by way of the ureters and bladder, the other kidney is infected. Careful local examination of both kidneys should be made and the ureteral catheter should, if possible, be used, in order that the urine from each kidney may be thoroughly examined for the bacillus.

The diagnosis of primary renal tuberculosis is not easy in the early stages. The following points will assist:—

- (1) More often in males than in females.
- (2) More often under middle life.
- (3) A tubercular family history.
- (4) Hæmaturia, slight, apparently causeless.
- (5) Polyuria, apparently causeless.
- (6) Pyuria persistent, without any other apparent cause.
- (7) Lumbar tumor.
- (8) Frequent urination.
- (9) Tubercular lesions developing elsewhere in the tract.
- (10) Development of the cachexia.
- (11) Demonstration of the bacillus by inoculation or microscopic examination.

Treatment.—If a diagnosis of primary unilateral renal tuberculosis has been made of course the focus of disease should be removed. Through a nephrotomy wound the extent of the process may be estimated and a

portion or the whole of the kidneys removed accordingly. One should bear in mind the probability of the other kidney being or becoming infected and therefore nephrectomy, though theoretically the correct procedure in such a case, is not to be lightly undertaken. Nephrotomy gives us a better opportunity for examining the urine from the other kidney, and nephrectomy should, if necessary, be done as a secondary operation. In short the lesion may be treated as a similar condition, for instance in the epiphysis of a bone; abscesses may be evacuated, cavities curetted and drained and indeed the whole nidus removed without destroying the function of the organ. On the other hand when the appearance of the organ combined with the symptoms points to general involvement of the kidney, half measures are useless and nephrectomy is the only advisable operation.

Tuberculosis of the bladder is very rarely a primary condition, being usually secondary to a similar condition in some other part of the genito-urinary tract, either by ascending or descending continuous infection. If the disease be primary and no pyogenic infection be produced by instrumentation, etc. its progress is slow, and under proper treatment extensive and general infection may not occur for years, and the patient be made to enjoy a reasonable amount of comfort. On the other hand when the disease is active and complicated by a similar condition in kidney or epididymis, then general infection and a fatal result may be looked for in the near future. Unfortunately early diagnosis is not easily made. Subacute catarrh of the bladder may be caused by stricture, enlarged prostate or calculus and the symptoms will closely resemble those of tuberculosis. Then the temptation to use the sound is great and thus pyogenic infection may be introduced, at once accelerating the progress of the disease and increasing the suffering of the patient.

If we realize the difficulty of rendering aseptic the anterior urethra and the dangers in a pyogenic infection of an already diseased bladder we will use the sound less and less frequently in our efforts at diagnosis, and should we determine to use sound or cystoscope, instrument and patient should be prepared as scrupulously as for any major operation. Let us depend rather upon a careful consideration of the whole history of the case and of the individual symptoms. Pain, tenderness over the pubes and in the rectum, frequent micturition, merging later into actual incontinence, as the bladder contracts and the ulceration increases, haematuria, pyuria, are all usually present sooner or later in tuberculosis of the bladder. But the pain is not nearly so severe as when calculus is present, nor is the haematuria so profuse and constant; nor do we have the sudden stoppage during urination so characteristic of stone; usually the exclusion of

stricture is not difficult, and senile prostatic enlargement is excluded by rectal palpation.

If, by the process of exclusion, we are thrown back upon the fact of a catarrhal inflammation of the bladder without any appreciable cause, we should suspect tubercle, more especially if the patient be a male under middle life. The microscope may confirm our suspicions by showing bladder cells and tubercle bacilli in the urine, although a negative result is not improbable and should not be given too much weight. A bad family history is of course good corroborative evidence.

Having decided upon the probability of tuberculous disease of the bladder we should seek for other points of infection, because the extent of further infection throughout the system must go far to determine as to the nature and extent of surgical interference desirable. The upper urinary and the genital tracts, the lungs, the long bones, and in the female, the uterus and ovaries should be closely scrutinized for this purpose.

The *constitutional treatment* of this condition is vitally important, and in many cases, provided no pyogenic infection has occurred, the patient may be made comfortable and the disease at least retarded indefinitely by constitutional and local measures. Creasote, guaiacol and cod liver oil are of benefit; sunlight, fresh air, change of climate, a nutritious regimen, careful attention to all the functional activities, everything, in short, that tends to improve his resisting powers will be of undoubted use to the patient. Locally, iodoform emulsion (10 per cent.), bichloride of mercury solution (1-2000), or pot. permang sol (1-3000) may be used *per urethram*.

Should the condition of the bladder not improve and the general state of the patient warrant it, suprapubic cystotomy is indicated. By this means we can examine the bladder deliberately; drainage, curettment and direct applications may cure the local condition entirely, and the relief which the patient almost invariably experiences is gratifying.

The *epididymis* is the starting point of uro-genital tuberculosis in many cases. Such close observers as Senn and Councilman claim this to be the case in more than 50 per cent. of all cases.

This is probably explained by the tortuous nature of the blood-vessels of the part, the fact that the spermatic artery divides at the epididymis, the exposure of the part to trauma and acute septic infection and the circulatory disturbances incident to the sexual function. Thus is explained the fact as noted by Kocher and others, that the disease is prone to attack young married men, and is always most prevalent during the period of active sexual function.

Statistics also indicate that tuberculous epididymo-orchitis is a pri-

mary affection in a very considerable number of cases. But it is equally certain that the tendency of the disease once established is to rapidly invade the vas, vesiculæ and the rest of the uro-genital tract. An early *diagnosis* is therefore imperative, and in making a diagnosis one should note the family history, the tendency of the process to first invade the globus major, then the globus minor, then the vas (the nodular thickenings of which have been likened to a rosary), and next the vesiculæ or the prostate and bladder.

The process is relatively painless, and is often accompanied by hydrocele of the tunica vaginalis. It often quickly becomes bilateral. Gonorrhœal epididymitis, on the other hand, is quite painful, more rapid in onset, is not accompanied by the nodular thickening of the vas and usually attacks the globus minor first.

As the disease progresses, caseous degeneration of the indurated mass takes place, and at a comparatively early date softening and fistula occur. Fortunately the diagnostic data in this disease are fairly precise, but owing to its insidious onset we do not usually see it in its earliest stage.

The clinical course is variable. A fistula may form, the primary focus be discharged and the disease subside, leaving an atrophied testicle and an indurated epididymis. Then again, trauma or septic infection may light up the process and rapid general infection result. The lymphatics of the testes being connected with the lumbar glands, there is always danger of retro-peritoneal infection, even without involvement of the upper uro-genital tract. It is this very uncertainty in the clinical course and our inability to prognosticate precisely that should determine us in our surgical treatment.

The treatment should be radical if the patient's condition will admit of it. If the lungs or other important non related organs are involved, we must depend upon general tonic treatment. If the disease be bilateral, it has probably advanced too far for radical measures. But if it be uni-lateral and has not extended quite beyond the reach of the surgeon a radical operation is called for. The testicle, the whole of the vas and the seminal vesicle may be readily removed, and in no properly selected case should the patient be denied the undoubted benefit of such a measure. It is probable that as the question continues to be studied, this operation will be advised in every otherwise suitable case, when the disease has extended to any part of the vas deferens.

GLANDULAR TUBERCULOSIS.

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IN taking up this subject, I shall confine my remarks to tuberculous disease of the external glands, and chiefly to those of the head and neck.

Etiology. The age at which tuberculosis of the cervical lymph glands is usually seen is from three to ten years. In a large portion of these cases an inherited tendency to the disease can be traced. The commonest source of infection in cervical adenitis is through the tonsils, and the adenoid tissue of the naso-pharynx. That the pharynx is the most frequent seat of primary infection is shown by the fact that the deep cervical glands are generally first affected. In many cases the tubercle bacillus has passed through an apparently healthy tonsil.

Mr. Spencer, in his lectures on the Pathology of the Lymphadenoid structures, says:—"If a culture of tubercle bacilli be injected into the trachea of an animal, the bacilli pass through the intact mucous membrane, and infect the neighboring glands. He further says it is quite an exception to see a combination of hypertrophied tonsils or adenoid vegetation and tuberculous glands in the same patient. George Morgan writing on this subject, in the British Medical Journal, says that in many of his cases there was some enlargement of the tonsils, or adenoids of the naso-pharynx. The two media by which the tubercle bacilli may be conveyed to the tonsils are by inhaling tuberculous dust, or drinking tuberculous milk. Pathologists are unanimous in the opinion that the bacillus more frequently enters the body by inhalation than deglutition, the bronchial glands being affected fully four times as frequently as the mesenteric.

Hence the danger of oral respiration and the danger of adenoids as an indirect cause of tuberculous adenitis. But adenoids have more than an indirect influence in the cause of gland trouble:—they are sometimes themselves the seat of local tuberculosis. Krueckmann found tubercle in the tonsils in 60 per cent of tuberculosis, and he asserts that tuberculosis of the cervical lymphatic glands almost always depends upon the invasion of the glands by way of the tonsils. Dr. Walsham says that the tonsils, so far from being immune from tubercle, as has been alleged are very frequently affected by it. The tubercle, he says, may be primary in the tonsils, with secondary infection of the lungs or other parts, the cervical glands being often affected thus secondarily.

Out of 31 cases of tuberculosis, acute and chronic, Dr. Walsham dis-

covered tuberculosis of the tonsils in 20 cases. It is clear, therefore, that the most careful attention should be paid to any faucial disorder in children and that all obstacles to free respiration, such as adenoids, and the like, should be removed. Taking these facts into consideration, we see the futility of excising a large gland, and leaving behind the probable cause in the shape of a tuberculous ulceration of the lymphoid tissue of the naso-pharynx, or a tonsil containing tuberculous foci.

Spongy and congested gums carious teeth or stumps are frequently followed in the strumous child by tubercular enlargement of the submaxillary and other deep cervical glands. Other sources of infection are chronic otitis, and from the skin of the face, neck and scalp being affected by superficial wounds, eczema, impetigo, porrigio, etc., which allows the passage of the bacillus.

Lesions.—In the great majority of cases the cervical glands are involved, and generally they are the only ones affected. In 155 cases of tuberculous glands reported by Treves, those of the neck were the seat of disease in 145, and the only seat in 131. Those of the axilla were involved in 17, but alone only in four, the groin in 8, and alone in 6. The glands first affected are frequently the upper set of the deep cervical group. The chain of deep cervical glands which are involved follows the carotid artery.

It is very interesting to note a small tract by John Browne, a surgeon of Norwich, reviewed by Mr. D'Arcy Power, in his interesting series entitled *Archaeologica Medica*. Browne, after some remarks on diet, and so forth, in which he seems in many respects to have been ahead of his times, says of surgical means, "These tumors (scrofulous glands) do require extirpation and extraction to be so dexterously performed as that no part be left behind. The glands are to be extracted with great care and caution, so that every part of the cystus or bags thereof are perfectly and thoroughly eradicated, and extracted, the which being done, and the part clean, mundifie the ulcer, digest, incarn, and then induce a cicatrice."

Pathology.—The process in all tuberculous glands is essentially a chronic one. Holt divides them into two groups: in the first the process is more rapid and tends to early caseation and softening, and the products of inflammation are mainly cellular. In the second group the course is much slower, fibrous tissue predominates, and caseation and softening are infrequent. In the first group the glands are swollen and have tubercles scattered through them. These enlarge and coalesce to form a large mass involving nearly the whole gland. Subsequently there is caseation and then softening, which converts the substance of

the gland into a whitish, caseous material, mixed with thick, curdy pus. This pus gradually accumulating makes its way towards the surface, and involves the overlying skin, which becomes thinner and redder, until it gives way, and allows the matter to be discharged. The discharge is usually thin and serous, mixed with some of the caseous material.

The sinus thus formed has a characteristic appearance :- its margins are surrounded by œdematous granulations; the cicatrices of the sinuses and cavities leaves a peculiarly disfiguring scar, the cicatrix is often adherent to the deeper parts; and is therefore depressed.

In a second group of cases the process is much slower, and the amount of fibrous tissue is greater. The glands are tough and hard, and the capsules are greatly thickened. They do not, as a rule form adhesions to the surrounding tissue, and are freely movable, while suppuration is exceptional.



Tuberculous Gland—Low Power.



Tuberculous Gland—High Power.

Treves, in speaking of the method of the spreading process, from one gland to another, states that while it often takes place along the direct line of the lymph current, this is not always the case, as sometimes it spreads in the opposite direction. This he believes to be due to an extension of the disease from the gland to the afferent lymphatics, these vessels themselves becoming the seat of disease, with changes similar to those taking place in the glands. In consequence many more tuberculous nodes may be found than there were original lymph glands, a point which has often been noticed but for which there is no other satisfactory explanation.

As to the clinical features it is scarcely necessary to say anything, as they are so familiar to everyone. Their enlargement is generally insid-

ious and painless and at first they are freely movable, but later on the surrounding parts become involved, in a periadenitis, and the gland becomes adherent.

Diagnosis. Tuberculous adenitis will have to be distinguished from the following:-

1. Lymphadenoma, or Hodgkin's disease.
2. Lymphatic Leukæmia.
3. Lympho-Sarcoma

Tuberculous adenitis is more common in the young, and involves the sub-maxillary glands more frequently than those of the anterior and posterior cervical triangles, which are usually affected first in Hodgkins disease. The enlargement may last for years without extending. The glands are often, even when small, welded together, and tend to suppurate, a feature rarely seen in true lymphadenoma. Strict limitation to one side of the neck or to the axilla would point to tuberculous disease, rather than to lymphadenoma. In lymphadenoma the surface of the glands will be smooth and elastic and there will be no adhesions present.

A microscopic examination of the blood will enable one to distinguish tuberculous adenitis from lymphatic leukæmia. In the latter condition there will be a very marked increase in the colorless elements of the blood. The proportion of whites to red may be as 1 to 10, although it is usually less than this. This increase takes place in the lymphocytes. Eosinophiles and nucleated red corpuscles are rare.

Sarcoma, of the round cell variety occurs rarely in single glands or in a group of neighboring glands as a primary affection. It will be distinguished by its more rapid growth, and by its tendency to spread to the neighboring parts and by the absence of leukæmia.

Prognosis.—It would appear from statistics, that it is comparatively rare for patients with glandular tuberculosis to develop diffuse tubercular disease. Poore states that of 52, only 2 were known to have died with tuberculosis. Nordan, on the other hand, says that out of 149 cases, 18 per cent. were known to have died with tuberculosis, and 9 per cent., though living, were suffering from that disease. Though the course of glandular tuberculosis is often protracted, yet one may predict ultimate recovery in the great majority of cases.

Treatment.—I may say at the outset that the majority of surgeons at the present time are of the opinion that the only way to deal with tuberculous glands is to excise them. The old plan of treatment, of applying tincture of iodine, iodine ointment, or other drugs, in the hope of influencing a caseating gland, perhaps deeply seated beneath muscle

and deep fascia, is not only useless, but may be harmful in injuring the skin itself, and interfering with the radical operation of excision later on.

Many physicians are still in the habit of applying tincture of iodine, or iodine ointment, or poultices for a prolonged period, in the hope that this will effect a cure, only advising removal of the glands when they have broken down, and are almost ready to burst spontaneously. The result often is, that when the surgeon first sees the case, he finds the glands broken down and adherent, with the skin over them red and thinned, so that the only thing he can do is to incise, curette, and drain, whereas, if he had seen the case earlier, before softening had occurred, and inflammation in the surrounding cellular tissues, a comparatively simple operation might have been done, with primary union of the wound, and much saving of time and tedious dressing might have been avoided.

Delaying the operation upon tuberculous glands until they are softened and broken down, with the skin over them red and thin and ready to give way, should be considered not only mischievous but reprehensible.

It is still more unfortunate if the case is left until an abscess is formed which opens spontaneously. Here you will have not only the ill-health dependent upon the presence of long-continued discharge, but the ultimate production of an ugly, depressed scar.

It is of the utmost importance in the matter of scars that the offending gland and pus should be removed while the skin is sound, before it has become damaged by inflammation. It is desirable to look upon this question from an æsthetic point of view, and the surgeon should act in such a way as to produce the least amount of blemish. When breaking down has occurred in the diseased lymphatic glands, operation should be done speedily, before the skin becomes thin and red. The use of the subcutaneous sutures of Halsted will be found to leave the least noticeable scar. Next to this, the use of fine horse-hair, in interrupted sutures. Sometimes it is possible to bring the edges of the incision together with strapping without using sutures. When we have an abscess to deal with in connection with tuberculous glands, the surgeon should not be satisfied with incising this and letting out the pus, but he should search for the diseased gland. In some cases the abscess will be subcutaneous, and the gland will be found beneath the fascia or beneath the sternomastoid muscle, and a small opening will be found connecting it with the abscess.

The situation of this can be best determined by the finger feeling a slight depression, then a probe passed into this depression will usually enter a small opening and lead one to the gland. The opening should be enlarged, the gland removed, the whole area scraped with a

sharp spoon, cleansed with carbolic lotion, iodoform emulsion instilled, and drainage of iodoform gauze used.

One may sometimes feel in the capsular cavity left after the removal of a gland the convex bulging of a continuous gland. This should be reached through the wall of the cavity, and removed. Where many glands have to be removed, it is, as a rule, better to remove them through a series of small incisions, rather than through very extensive ones.

After an operation for tubercular glands, the part must be kept absolutely at rest ; in the case of the neck this can be done by applying a bandage in the form of a figure of eight around the axillæ below and the head above, or by the use of a stock made of poroplastic felt, or gutta percha, as in cervical caries.

A distinct advance in recent surgical procedure has been made by the adoption of the suggestion of Mr. Watson Cheyne, that in dealing with large masses of glands adherent to the sheath of the cervical vessels, the whole of the underlying internal jugular vein should be removed. I have myself removed a considerable portion of the internal jugular vein, with a good result. The need for this procedure must be very rare.

In operating for tubercular glands one is often struck by the large number of glands lying deeply, without giving any indication on the surface of their presence. For instance, one may examine a patient very carefully, and make out only a single enlarged gland, and subsequently, after removing it, others will pop up, until half a dozen, or more, diseased glands may be found ; so that one should not undertake an operation for tuberculous glands, even though apparently there be only one superficial gland affected, unless one is prepared for a deep and often difficult dissection. About a year ago I removed 176 tuberculous glands from one patient, Mr. D., age 24, referred to me by Dr. Moorehouse. These were located along the cervical vessels on either side of the neck and in the axillæ. The patient made a good recovery.

TUBERCULOSIS OF THE LARYNX.

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BY Laryngeal Phthisis, we generally understand "the invasion of the laryngeal tissues, by tubercle bacilli, accompanied by the formation of tubercular deposits". This invasion is secondary in most instances, but that it may occur primarily is now well known. This definition will not however, include that large class of cases where there is no deposit, but where there are certain changes, the commonest of which is anæmia, frequently associated with the presence of pulmonary phthisis, nor those where the symptoms are essentially catarrhal in character.

PREDISPOSING CAUSES.—*Chronic Laryngitis* is frequent in people who follow sedentary occupations, and the influence of previous or chronic inflammatory conditions in the larynx, is all in favor of the occurrence of a secondary infection of the larynx in phthisis pulmonale through the weakening of the resisting power of its epithelium and the functions of its glandular elements. *Acute Laryngitis* occurring in the victim of pulmonary phthisis is not of necessity followed by tubercular invasion of the parts involved. Syphilis is said to predispose. Age has a marked influence. Males are affected twice as often as females. Occupation is predisposing if sedentary, but there is no specific occupation which in any appreciable degree predisposes to tubercular laryngitis. *Nasal catarrh* and nasal obstruction are not predisposing causes, nor has it been proven that the inhalation of the bacillus is a common mode of infection, and it is rarely found in the nose even in tubercular patients. *Hypertrophy* of the separate masses of lymphoid tissue, which go to make up the tonsillar ring accompanied by the presence of enlarged crypts, often filled with decomposing debris undoubtedly may be considered a factor of importance, as the tubercle bacilli are often found in the crypts both of the pharyngeal and faucial tonsils.

SYMPTOMS.—The subjective symptoms divide themselves into (a) those common to the laryngeal lesion and to pulmonary phthisis, and (b) those peculiar to the laryngeal lesion. To these there are three exceptions, (1) Acute miliary tuberculosis, with early involvement of the larynx. (2) Primary laryngeal infection. (3) Primary tubercular perichondritis.

(a) When the lung disease is deeply seated, or the evidence confined to a few moist rales, or bronchial breathing, the diagnosis is often difficult. The temperature chart is the most reliable assistant, while progressive

loss of flesh with loss of appetite, and night sweats are useful general signs.

(b) Voice.—Nine tenths of all cases exhibit some failure of the voice, as an early symptom. *Aphonia* may be present at an early stage, but is found at all stages and is due to interarytenoid swelling, involvement of the cords and bands, or paralysis of one cord. The early form which is as a rule temporary, is frequently mistaken for the functional variety. *Huskiness* may arise from adhesion of mucus to the cords, or from a nodal lesion, want of cordal tension, or mechanical interference with the working of the cords, as with interarytenoid thickening. *Hoarseness*.—In a short conversation the voice often changes from a gruff hoarseness to a high falsetto, and then into a toneless whisper. *Diplophonia* due to the lodgement of mucus, or to a paresis, is almost peculiar to laryngeal phthisis.

The voice is affected in all pathological conditions of the cords without exception. *The voice is not affected* where the epiglottis alone is involved, or where the swelling is confined to the interarytenoid fold, and insufficient to interfere with the motion of the cords.

Pain.—As in malignant disease, this is often referred to the ear and also to the palate, being due to involvement of the glosso-pharyngeal nerve by ulceration and infiltration, around the laryngeal vestibule. Dysphagia occurring with the swallowing of solids, is probably due to involvement of the epiglottis, or if occurring with the swallowing of fluids to involvement of the arytenoids.

Respiration.—Dyspnoea with stridor may accompany tumefaction, and thickening, and ulceration of the vocal cords.

The objective symptoms, that may be said to be typical, are swelling of the arytenoids and epiglottis, ulceration and swelling of the cords, sloughing ulceration of the ventricular bands, interarytenoid and subglottic swelling and growths, and extensive destruction of the cords with marked hypertrophy of the ventricular bands.

Marked anaemia of the larynx is a condition found in the pre-tubercular, or the chronic phthisical state, but the parts are not always anaemic when actual disease is present, but instead there is congestion from the irritation caused by coughing, and when typical laryngeal phthisis is present, congestion is practically always marked, although not so much so as in syphilitic affections.

The *Arytenoids* may vary greatly in form from a simple oval swelling, to the large dumb-bell formation, which effectually conceals the parts below. Their color is pink or red. Where there is a lesion of the surface, it is due to superficial ulceration, or to points of suppuration which

appear as minute yellow spots, while small cheesy looking patches are often seen. If miliary tubercles are present, they are not usually visible.

The *Inter-arytenoid* space is usually involved, and swollen or heaped up and somewhat ragged, while, in some cases there appears a sessile distinct tumour, concealing an ulcer, which is deep and covered by a layer of white secretion.

The *Epiglottis* when involved is usually swollen, congested and ulcerated chiefly on the posterior surface. Rigidity is often marked. Ulceration may be so extensive that the part becomes almost totally destroyed.

The *Ventricular Bands* may be swollen and ulcerated, and the latter is of the deep variety. Granulations when present are apt to be pale.

The *cords* are chiefly affected in the posterior two thirds, possibly owing to infected sputum passing over this surface as in the epiglottis, an example of auto-infection. The appearance may be that of shallow ulcer at the vocal processes, cleft like ulcers in the length of the cord, a red and swollen surface, or a saw like irregular edge in one or both. The colour may be a pale pink. Paralysis of the cords is often marked in one cord only, without any other sign of laryngeal involvement, and is here supposed to be toxic, or due to tubercular myositis. When it occurs in the later stages, it is probably mechanical.

Perichondritis.—Is acute or chronic. There are externally tenderness, and swelling of the *pomum Adami*, and internally ventricular swelling, and subglottic fulness with fixation of the corresponding cord, in the acute. In the chronic the process arises from the extension of the disease, through the sub-mucous tissues, and accompanied by exfoliation and expectoration of the necrosed cartilage.

PATHOLOGY.—The anterior surface of the posterior parts of the larynx (arytenoids) and the posterior surface of the anterior parts of the vestibule (epiglottis) are the most prone to be attacked by tuberculosis. These are in the direct track of the sputum, and it is probably due to the passage of the infected material over the parts, that they are attacked. That the blood stream is responsible for the conveyance of the bacilli from the infected lung tissue is hardly tenable, because there is no direct connection between the blood vessels of the lungs and larynx, and again with regard to the lymphatics, the deep cervical and internal mammary sets of glands intervene between those of the lungs and those of the larynx. These two paths would therefore seem to be unlikely ones by which the disease would travel, and we are thrown back then upon the theory of sputum infection, which would take place through the unbroken epidermis, sur-

face erosions, and the gland ducts in the sub-glottic, and ventricular regions. All these modes of ingress have been exemplified by various observers, and may be accepted as proven. A tubercular lesion in the larynx will present the same microscopic appearance as elsewhere, the primary deposit being found in the sub-epithelial layer of the mucous membrane, and causing a projection of greyish nodules on the surface, with the greatest focus of growth around the small blood vessels, and the glandular structures, congregating in small masses enclosing one or more giant cells. Acino-tubular gland tissue is especially prone to tubercular deposit, and this is plentiful in the inter-arytenoid fold, and in the epiglottis. The nodules undergo caseation and finally ulceration. Where there is ulceration of one cord a similar condition will develop at the opposite point of the other cord, probably by auto-infection. Where healing occurs it is by a process of fibrosis.

TREATMENT.—The general treatment of tuberculosis will be taken up elsewhere and here we are not called upon to do more than speak of the purely local methods to be pursued, merely drawing attention to the general fact that when the lung invasion is marked, the disease of the larynx will advance as a rule *pari passu*. The patient should be cautioned to save the voice, and to avoid irritants, atmospheric or dietetic. When pain is present, the diet must be bland, and thickened with white of egg, or arrowroot, and may be sucked through a tube, while lying down. A local anæsthetic may be used shortly before taking food. Open-air treatment is contra-indicated in acute laryngeal conditions, and the atmosphere in these cases should be moist and warm.

This part of the subject naturally divides itself into (a) The application of drugs in various media, and (b) The removal of the disease foci by operative measures.

(a) *Drugs* may be applied as a paint, an injection into the trachea, a powder, a spray, and as a submucous injection. Each of these methods has its particular merit and advantage, and several may be combined in the one case. In each instance the parts require to be previously rendered anæsthetic with a cocaine spray.

Paints should be applied upon a laryngeal applicator armed with cotton wool, the cotton should only be moistened with the drug, for if any drop into the lower parts of the respiratory tract, an awkward and distressing spasm will arise. The paint should be rubbed thoroughly into the diseased parts, and this directly under the eye of the operating physician. The drugs which may be painted upon the diseased parts, and which at present command the con-

fidence of the profession are lactic acid, formalin, menthol, protargol, sulpho-ricinate of phenol, para-mono-chlor-phenol, etc.

Lactic-acid (*Krause*) Should always be used in a weak solution, say 10 per cent. at first, an increase up to full strength being made gradually as the larynx shows itself amenable. Formalin should be used in a solution of $\frac{1}{2}$ per cent. upwards in the same way. Menthol is best applied dissolved in albolene, and in a strength of from 20 per cent on a swab, or by means of a syringe, 15 minims at first. It acts as an antiseptic anæsthetic, and stimulant. Protargol may be used in a strength of from 5 to 20 per cent solution.

Intra-tracheal injections have been much commended of late, and are said to find their chief use in superficial ulcerations of the larynx with nodular swelling, or with an irritable cough and great subjective throat dryness, the difficulty lies in the accurate use of the apparatus, and in the glottic spasm induced. There is required a syringe of from $\frac{1}{2}$ to $\frac{1}{3}$ of an ounce, the laryngeal nozzle being attached with a bayonet catch to the barrel, so that accident may be avoided. Cocaine must be used, and the injection introduced quickly. The fluid should be heated to about the body temperature and a moderate amount injected about midway between the meal hours, and all coughing avoided for a time after the injection. The medium used is preferably oil or glycerine, and naphthaline, creolin, or guaiacol may be injected.

Powders do not find great favor in laryngeal therapeutics, but exception should be made in favor of orthoform, a powder which when applied upon a surface denuded of epithelium will produce an anæsthesia of several hours duration, without toxic effects, and is therefore of great use in cases attended by pain and dysphagia. Morphia may also be used but is obviously open to serious objections.

Sprays are always open to the objection that the drugs are too widely diffused, and if applied by the patient or attendant are generally so badly directed that they fail to reach the parts affected.

The Underwood Inspirator—which has been largely introduced in Canada has not proved of any real value in the writer's hands.

Inhalation of drugs dissolved in oily media is often very satisfactory especially when the patient is equal to the exertion of visiting the physician's office, or is resident in a sanatorium.

Submucous injections are made into the ventricular bands, and embrace solutions of guaiacol or creasote. They have been greatly recommended by Chappell, but of these the writer cannot speak from experience.

(b) *Operative measures*.—When a case proves obstinate under the drug treatment, or when there is deep ulceration and tumefaction, or

inter-arytenoid thickening, the use of the curette as recommended by Heryng is justifiable, and the results are often brilliant. In cord lesions this line of treatment is rarely called for. Operative measures are to be avoided if the general symptoms are marked, or if miliary tuberculosis be present.

As far as possible all diseased tissue should be scraped away, and in the case where the parts are infiltrated they should be incised, afterwards lactic acid may be rubbed into the raw surfaces. This treatment is of course heroic, and difficulty is met in securing the patient's consent thereto.

PROGNOSIS.—Laryngeal tuberculosis while often the precursor of speedy death, is not by any means hopeless, and any neglect of attempt at cure is never justifiable. The pulmonary condition is the important factor.

It is in the primary form, or when this lesion is secondary to tuberculosis above the larynx, that the best results are obtained. The chronic consumptive, and the one with few lung lesions, and a steady temperature, come next in order, while the miliary form is the most hopeless.

Ulceration of the epiglottis, and general ulceration with perichondritis offers most resistance to treatment, because the pain involved prevents sufficient nutrition being ingested.

Disease of the bands and cords on the other hand are the most favorable.

TUBERCULAR DISEASE OF THE MIDDLE EAR.

BY CHARLES TROW, M.D.C.M., L.R.C.P., LONDON,

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IF we were to search for Koch's bacillus in all suppurating ears, more cases than is generally supposed of tubercular disease would be found.

Undoubtedly we get cures, and probably sometimes when tuberculosis has not been diagnosed, as the local antiseptic, and operative, as well as the constitutional treatment, are to a considerable extent the same as in ordinary cases of suppurating ears. The middle ear, antrum and mastoid, are probably as good a culture ground for the propagation of germs as any part of the body,—having the necessary warmth moisture and protection from external influences.

More than forty years ago Buhl pointed out that when pus was collected in an osseous cavity, the walls facilitated the absorption of the morbid materials, and the consequent superinduction of miliary tuberculosis. A suppurating ear closely resembles an abscess in a bone.

Tuberculosis of the ear may be acute or chronic. In the former there is generally diffuse cellular infiltration of the mucous membrane, and proliferation of the cellular elements; there are few, if any, giant cells, but a large number of tubercle bacilli. The mucous membrane breaks down rapidly with resulting great loss of substance. This form occurs in debilitated subjects, and death usually soon ensues. In the chronic form superficial circumscribed masses of tubercle are seen on the mucous membrane; their centres become caseous, and giant cells are developed; but bacilli are not abundant. Ulceration and fresh deposits of tubercle take place in the deeper layers. The mucous membrane becomes thickened, granulations spring up on the surface, and under favorable circumstances connective tissues may form, with healing as the ultimate result; but unlike simple granulation tissue, there is a constant tendency to retrogressive changes and infection by pus organisms, and thus it is not frequent that we have such a favourable ending. In the great majority of cases the disease extends wider and deeper; the bones become involved, and perhaps the meninges and brain. Scheibe has described cases of what he terms mild aural tuberculosis, laying great stress upon the following points:—

(1) The case is similar to one of ordinary middle ear suppuration; but there is a very large perforation, without any sufficient cause.

(2) Great obstinacy.

(3) There occurs a greyish deposit on the inner wall of the tym-

panum, associated with increased suppuration, and followed by the appearance of granulations which cause it to disappear, and then disappear themselves.

(4) During the presence of the deposit tubercle bacilli can be found.

The sudden painless discharge from the ear is characteristic of the complaint; often no signs of local reaction; hearing so good, probably, that the patient has not noticed any defect. With regard to the diagnostic value of tubercle bacilli in the discharges, it would seem that they are by no means always present, and a negative diagnosis cannot be made by their absence in a single examination; especially is this the case where there is profuse purulent discharge, due to secondary infection from strepto, staphylo, or pneumococci as they have a baneful influence on tubercle bacilli. Milligan says: "Should the staining and examination of the discharge from the ear, as is common, fail to reveal the bacillus, a portion of the granulation tissue may give a more positive result; and this also failing an experimental inoculation with fragments or tissue, especially when scraped from the deep bone after removal of the inspissated debris, often succeeds." He has shown by inoculation experiments that a very large proportion of cases of chronic ear suppuration in infants and young children are tuberculous. McEwen says it is frequently met with in infancy and childhood.

It is much more frequent as a secondary infection than as a primary, and generally takes place through the Eustachian tube or a perforation in the drum membrane. Often it is very insidious, sometimes occurring without rupture of the drum membrane, with no pain, or only a very little of an indefinite character. There may be very little purulent discharge, the bones being eroded by caries sicca. The membrane surrounding the perforations (usually several if the drum is not gone) is usually a pale and greyish-yellow, or Dench describes it—blue-white, glossy, œdematous appearance, and giving issue to a thin ichorous, and frequently foetid discharge. Early implication and enlargement of the surrounding glands is an important symptom. The bony structures may be quickly involved and the entire mastoid broken down. Dench aptly says: "It is well to bear in mind the possibility of systemic infection from this focus; the local process then is sure to extend rapidly. It occasionally spreads through tegmen tympani or petro-squamosal suture to the brain membranes, causing lepto-meningitis, and McEwen says "when this occurs early before much destruction of the bone surrounding the middle ear has occurred and without the membrani tympani rupturing, the primary focus is apt to be overlooked, and the cases are then ascribed as ordinary tubercular lepto-meningitis.

Thrombosis may occur in the sigmoid sinus by gradual invasion by tubercular granulation tissue, or an acute infective process.

Milligan's observations on tuberculosis of the ear in the Medical Annual, 1901, among the causes he enumerates hereditary tendency, unhealthy environment, unsuitable feeding, exposure to infection from tuberculous relatives, tuberculous nasopharyngeal adenoids.

I am inclined to think these latter are not so very uncommon. Many children have enlarged cervical lymphatic glands, which generally disappear after the tonsils have been excised. Have we removed the culture ground? Dr. F. Baup, in the *Annales des Maladies de l'Orille*, in a contribution to the study of *Larval tuberculosis* of the three tonsils, says: "This interesting question of prophylaxis of tuberculosis is of wholly recent origin. It was only in 1894 that M. Lermoyez, having examined adenoid vegetations which he considered suspicious, found in the midst of the adenoid tissue tubercles and Koch's bacilli, and demonstrated thus in the clearest way the possibility of a concealed, latent infection of the tonsil by the bacillus of Koch. The changes caused by an hypertrophy of a tonsil make it an easy prey to germs, tubercle as well as others, and account for the frequency of amygdalitis. Twelve surgeons examined 871 excised tonsils, of which 53 proved to be tubercular. Baup describes three forms of larval tuberculosis of the tonsils, and says they are met with at the ages of 3 to 18. It may co-exist with apparent health; but generally there is some ailment.

Large soft ganglia in the neck, coincident with enlarged tonsils, is a sign of great value. Its relation to auricular tuberculosis is well known in Germany. Frankel and Lewin have several times remarked their association.

We all know what a large percentage of cases of suppurative otitis media are due to enlarged tonsils, especially the third (Luska's). Is it not likely that there is more than a partial blocking up of the Eustachian tube to cause this; and may it not be that some are due to the transmission of tubercle bacilli from these tonsils along the Eustachian tube to the middle ear?

When the tubercular process in the ear is secondary, the prognosis is usually unfavorable, and also in the primary if the disease has extended deeply and widely; but I believe there are cases, not infrequent, in which the process is very slow (just as we may see it in other portions of the body), and in these we can hope for a cure. I think in my own practice I have had such cases.

The treatment of aural tuberculosis is essentially that of tubercular disease elsewhere, such as good air, nourishing food, proper clothing, and

the general constitutional remedies as seem most suited to the individual conditions, the hypophosphites, strychnine, creasote, etc. Local treatment may be considered under two headings, surgical or operative and medical, the choice depending upon the extent of the aural involvement, the presence or absence of tuberculosis elsewhere, and the general physical condition of the patient.

When there is marked debility and emaciation, facial paralysis and masses of enlarged glands, and where the discharge is abundant and foetid and frequently bloodstained, palliative measures, antiseptic treatment, and, if possible, residence at the seaside, are more strongly indicated than operation, but the prognosis is bad.

If there is no ascertainable tubercular focus elsewhere, and the area of aural infection is limited, operation may be required. This consists in the free opening of the mastoid cells, if they are affected, scraping away of all softened and carious bone (repeated if necessary), and encouragement of granulations from the bottom.

In the middle ear, keep the part as clean and dry as possible. All pus and debris should be removed as frequently as required. Granulation tissue should be snared away or cauterized and kept down by chronic acid. The use of antiseptic washes and antiseptic powders regularly, at least once or more often, if required each day.

ON THE DISPOSAL OF TUBERCULOUS SPUTUM.*

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THERE has perhaps been no greater advance made in medicine in the past few years than the general recognition by both our profession and the public that tuberculosis is a disease which may be cured, and a disease which may be prevented.

Koch's discovery in 1882 of the tubercle bacillus, and his masterful presentation of its causal relationship marked a new epoch in our ideas regarding the disease produced by this ubiquitous bacillus. Knowing as we do that its presence is necessary for the development of the tubercular diseases the prophylaxis resolves itself into the problem of the destruction of the bacilli wherever found outside the body. We know they are present in the sputum in tuberculosis of the res

* Presented at the annual meeting of the Canadian Medical Association, Winnipeg, August, 1901.

piratory tract, in the dejecta in tuberculosis of the bowels, in the urine in genito urinary tuberculosis, and in the ulcers in tuberculosis of the skin. In surgical tuberculosis they never appear outside unless as the result of an abscess opening.

The cases in which the respiratory tract is affected far outnumber all the others, and from the others there is as a rule but little danger of infection when there is any pretence to cleanliness. The sputum we know is a very prolific source of infection, and the one to which our attention must be drawn in our efforts to prevent the spread of the disease from the sick to those about them.

Pflugge and others have shown that in the act of coughing mucous particles are thrown some distance from the patient, and that those particles often contain bacilli. Unless the cough be very forcible the distance does not exceed two or three feet. To prevent infection from this source patients should be taught to always hold a cloth or handkerchief before the mouth when coughing, unless out of doors with no person near. Another handkerchief must always be used for the nose.

Many experiments have been made in hopes of finding a chemical disinfectant which will destroy the virulence of the bacilli present in the sputum. The greatest difficulty presenting itself is the fact that as a rule the sputum is in albuminous or muco-purulent masses, forming an almost impermeable envelope, and any solution applied acts only on the surface of these masses unless it has powers of penetration; and as many of the disinfectants in ordinary use coagulate albumen the possibility of penetration is much lessened.

The disinfectants in most common use are perhaps bichloride of mercury and carbolic acid. Solutions of these 1 in 500 and 1 in 20 respectively acting for 24 hours will not destroy the bacilli in nummular sputum. Guinea pigs inoculated with sputum thus treated develop tuberculosis in almost every instance. Experiments with other chemical disinfectants give like results. These cannot be relied upon unless they are intimately and thoroughly mixed with the sputum, and all the larger masses thoroughly broken up. This is very unpleasant as well as difficult work, and precludes its use.

Boiling in water for five to ten minutes has been looked upon as an efficient method of treating sputum or sputum soiled handkerchiefs, but the recent experiments of Moeller ⁽¹⁾ show that this cannot be depended upon. He boiled sputum for ten minutes; the larger masses which had coagulated were opened, and a portion inoculated into guinea pigs. Of

(1) Zeitschrift für Tuberkulose und Heilstättenwesen, Band 2, Heft 2, p. 147.

six inoculated two died of tuberculosis, one of peritonitis in 24 hours and three remained healthy.

Steam disinfection, especially under pressure has been satisfactory, but of course is not available except in the larger hospitals.

Chemical agents then being insecure in their action, and boiling in water useless unless prolonged some other method must be used. The only means which will certainly destroy the bacilli in the sputum, and which at the same time is practical is *incineration*. Destruction by fire of all sputum, and of sputum-soiled cloths should be rigidly insisted upon with every case of pulmonary tuberculosis. The only use for carbolic or other solutions is to cover the sputum, and prevent drying or putrefaction, or to overcome the unpleasant odor present in the expectorated matter of certain cases.

The sputum is preferably collected in a receptacle such as the paper spit box supplied by Seabury and Johnson. When these are used the box and contents are both placed in the fire, and there is no unpleasant handling, and no washing as is the case when earthen cups are used.

When collected in stoneware or enamelled iron cups these should be emptied into a sheet iron receptacle which can be placed in the fire, and the cup then sterilized. It is not safe to simply throw the sputum into the fire of an ordinary cook stove, as perhaps would be done in the case of patients treated at their homes. There would be too much possibility of some of the expectoration running into the cooler part of the ashes, especially if the fire were low, and thus escaping thorough incineration or even heat sterilization.

The proper method is to have an iron box (thin sheet iron is sufficient) of the proper size into which the day's collection may be placed, this can then be placed in the fire with no possibility of any of the contents escaping combustion if the fire be sufficiently hot. The process may be aided by mixing sawdust with the sputum just previous to placing in the fire.

The patient himself, and those about him should be made fully aware of the great risks incurred by all if proper care is not taken and if any of the sputum is allowed to become dry either in the spit box or on handkerchiefs, etc. On the other hand it is but just that the physician also tell the patient and his friends that when proper care is observed there is no danger incurred. There is abroad amongst the people, and even in our own profession such an absolute fear of the disease that many a poor patient is made to feel that he is a veritable pariah. All those coming in contact with the patient should be impressed with the

necessity of great care, but should also be reassured that if such care be taken no danger is to be feared.

Let us also not forget that there is really greater danger of infection from those cases which are up and still at work, and who expectorate indiscriminately wherever they may be, in workshops, offices and on the street, and that these cases often do not know the nature of their trouble.

Whenever tubercle is suspected the sputum should be examined, and if bacilli are present the patient should at once be instructed as to the evil of indiscriminate expectoration.

Only by persistent effort on the part of the profession, and the education of the public can we prevent the spread of the varied diseases caused by the bacillus tuberculosis.

THE RELATIONS OF THE TUBERCULOUS AND THE PUBLIC.

By J. T. FOTHERINGHAM, M.D., C.M., Professor of Therapeutics,
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An unabbreviated form of this title may be constructed as follows:—
The mutual rights and duties of those infected by tubercle bacillus and those not so infected. The question is:—Putting aside sentiment, and having a maximum of regard for the interests of the race, and an irreducible minimum of regard for those of the individual, what measures, (a) of a public, and (b) of a private character can be undertaken for the extirpation of this bacillary scourge, as that other of, say plague, or small-pox, has been extirpated? The barest outlines are possible in an article of so short limits and such wide scope.

First, one is struck, in his reading of the History of Medicine, with the advance of opinion, both professional and lay, on such topics. One becomes optimistic, and hopeful of final success, when he remembers how in civilized and kindly Greece, the Therapia, Temples of Apollo, the gracious Healer, though they welcomed the sick, cast out the dying, and how from superstitious motives the very high priests of the kindly God of Healing expelled from the sacred precincts the unhappy inmate who showed signs of death, lest they should be defiled by the presence of the Great Enemy. The spread of sound knowledge has had even more to do with the change of opinion than the cultivation of ethical and moral considerateness. So that this campaign must be one not of compulsion but of education.

The "irreducible minimum" above referred to implies for the infected sufferer all that public and private kindness and modern science

together can furnish, in the way of climatic advantage, housing, food, and hygienic and medicinal treatment. In return for such benefits the providers of them, the public at large, and the relatives of the sufferer, have the right to demand an intelligent surrender by him of some of his cherished privileges, and an appreciation of the fact that he is in a degree a menace to their safety.

Education being the remedy for the frightful evils arising from the apathy still prevailing, (in the United States 100,000 deaths per annum, in Germany 100,000, in Great Britain 60,000, in Canada 8,000,) how is it to be carried on? Three agencies are available.

(a) The medical profession in their daily contact with the people.

(b) Those who have been inmates of sanatoria in which they have learned the details of prophylaxis, control of infection and means of cure, and who carry home with them as apostles, this knowledge.

(c) The Public Health authorities.

As to *methods* of education, the Public Health authorities are chiefly responsible. They should everywhere do as is already being done in Germany, where at public expense there are about to be circulated among the people of the Empire, millions of leaflets with plain statements of fact as to infectivity, heredity, faulty hygiene, and other predisposing factors and prophylaxis generally. An Augean stable of ignorance must be cleansed before the infected begin to appreciate their duties to the uninfected, or their rights from them; the public must be taught that "catching cold" does not cause consumption; that there is no specific miracle-working substance in the possession of any quack or company, or ever will be; that the disease is not truly hereditary or incurable, and many other such facts.

Dangers and difficulties to be borne in mind in such a campaign of education are, the risk of stampeding the public into panic, an extreme as dangerous as the present apathy. The selfishness which fear arouses will be as fatal to the unfortunate as dull neglect has been. Even now the city of Toronto is balked in making provision for the tuberculous poor for the time by the cupidity and heartlessness of landowners near the purchased site, who have since the purchase, run up shacks within the statutory distance of such a sanatorium from a "dwelling-house", in hopes of driving it out of their neighborhood.

Another difficulty lies in the fact that in a climate like ours the poor are compelled to deny themselves ventilation in their home, in order to keep warm, the expenses of fuel and clothing being beyond their means. Of what value are lectures on sanitation to those so placed?

Public duty toward the infected demands at least the following provisions:—

1. Suppression of the loathsome expectoration so prevalent, as being a public nuisance as offensive and menacing as the "committing a nuisance" of another kind is in any public place. Public spittoons might be provided, for the same reason as public lavatories.

2. *Notification*, as a means of public education, should be at first *requested* in private cases, and *compelled* in public institutions of all kinds, till both profession and public attain the correctness of view which here so generally obtains with regard to smallpox and other contagious diseases. As Fowler points out, tuberculosis is at a disadvantage in three ways; the interval between the infection and the advent of symptoms is so long; the difficulty of tracing infection to its source in any given case is so great; and the proportion of the community under ordinary conditions susceptible to the virus, so small, as compared with say any of the specific fevers, that public opinion is slow to move. In New York City in 1893 the experiment was made of requesting notification in private and requiring it in public cases. There were notified in '94, 4,166 cases; in '95, 5,818 cases; in '96, 8,334 cases. This success led the authorities in '97 to require notification in all cases. Notification of course *per se* does nothing, except help in educating the public; it must be followed by further action soon.

3. The dissemination of correct views as to the disease has been already referred to as being clearly a part of the duty of the Health authorities.

4. Public hospitals for the bedridden, at any stage, and out-patient dispensaries for the relief and education of the consumptive poor, should be established. The latter would be especially suited to the needs of smaller places, and being inexpensive could be all the more numerous.

Where sanatorium treatment cannot be provided a system of public nursing would do much to mitigate the lot of those bedridden in their homes. The poor, in their crowded and unsanitary surroundings and with their careless habits, are mainly responsible for the ravages and persistence of the infective agent.

5. The disinfection of quarters, rooms, clothing, etc., on death or removal of patients, as in the case of other contagious disorders. If anything can be held to be proved about tuberculosis, it is that it is a "house disease."

6. The examination of and reporting upon all suspected sputa and discharges.

7. The provision in all gaols, asylums, etc., of separate accommodation for the infected. The ravages of tuberculosis in Sing-Sing, and

other prisons, are too well known, and will soon be widely considered a public scandal.

The infected one on the other hand, in return for these benefits, should be willing to conscientiously carry out, in the public interest, such simple rules as these :—

1. Sputum, being the main source of danger, must not be expectorated into a rag or elsewhere than into a disinfectant solution or suitable pocket receptacle.

2. Linen soiled by sputa must not be sent to a public laundry till after disinfection.

3. Rooms should be kept clean and well aired, and well cleansed when vacated, and all the rules of health most carefully observed, as to diet, baths, exercise, clothing, sleep, avoidance of sexual and other excesses, etc.

4. Sputum should not be swallowed for fear of infecting other organs.

5. The infected is less of a menace to himself and others the more rigidly he follows out rules, and under ordinary conditions of cleanliness and care, his presence need be but little feared even for infection, and much less for contagion.

TUBERCULOSIS—SOME NEEDED REGULATIONS.

By JOHN FERGUSON, M.A., M.D., L.R.C.S., Toronto.

IT is no longer necessary to argue that tuberculosis, by some means or other, passes from those affected with the disease to those who are still unaffected. No more certain is the relation of the seed to the crop than is the relation of the tubercular germ to the disease known as consumption or tuberculosis. It is true some persons are more prone to the disease than others, but in all cases the germ, or bacillus, must first take possession of the soil. It is a question of seed, soil and harvest—tuberculosis in other words.

The time was when leprosy was very common in Europe. It was very common in Scotland. It is no longer found in the latter country. Tuberculosis is now being studied in the light of a preventible disease. This is the true standpoint to study it from. It is a good thing to find a remedy for any infectious disease, but the fact still remains that prevention is worth more than cure. Shortly after the discovery of the bacillus in 1882 by Koch, I remarked at the Ontario Medical Association that proof was now furnished of what many, on clinical grounds, had

long held, that the disease was a communicable one. I was answered by a member present to the effect that "when as old as he was I would not hang heavy weights on slender threads." The slender threads have stood the test and the disease is now fully recognized as an infectious one. The incubation may be very slow, or it may be quick; but still it is a case of no germ, no phthisis.

Tuberculosis should be made a notifiable disease. It is not intended that undue restrictions would be placed upon those who are afflicted. But their condition ought to be made known. As soon as the case is reported the patient should be furnished with printed instructions as to how he should conduct himself with the view of minimizing the risk to the persons. These instructions would cover such topics as the use of a separate bed, towels, clothing and utensils, and the proper manner of disinfecting them after use. The disposal of the sputum, the kissing of other people by consumptives, and such like matters would also be dealt with clearly and fully.

There should be power placed in the hands of managers of companies, banks, railways, in school boards, municipal councils, colleges, and so on, to insist on a bacillary test by competent experts of all suspected cases. This would remove from the association with others, in offices and schools, of those who are afflicted with the disease, especially in the respiratory organs. It is true this would often work some hardship on those who became ill and were forced to relinquish their situations. But it is a much greater hardship that a person so afflicted should continue day after day with those who are not affected, until they too become affected. We isolate small-pox, and yet it is not as terrible as tuberculosis.

All persons who are known to be afflicted with tubercular disease should be debarred the right of marriage. There is no use having any sentiment in this matter. Time after time I have known young men and women enter into the marriage relationship whom I knew to be affected with tuberculosis, and whom I had advised to remain single. They would not take the advice; I could not enforce it. I need not say what the consequences were in such cases. It is bad enough for those with consumptive family histories to get married, but for those who are actually ill with the disease to marry is unpardonable. The legacy that is too often left to young widows in such cases is a number of delicate children altogether too liable to become affected with this fatal disease.

All known cases of consumptives should be compelled to carry with them a proper spittoon. It is well known that the sputum contains the bacilli in great numbers. These bacilli live long enough for the sputum to become dried and blown about as dust. It thus finds its entry into the

air passages of others. The state tries to protect private property, it should try to protect the life of the citizen against such a danger. But the sputum lying on the sidewalk is picked up by the feet, and the long skirt, and carried home to be carefully deposited on the drawing-room, bedroom and dining-room carpets, from thence to fly through the air on the application of the busy broom. How many have fallen victims to this habit of consumptives spitting in public places no one can tell, but they are legion.

The people are no longer sentimental in the cases of scarlatina, smallpox, the plague and cholera; why should they be sentimental in the case of the worst disease of all—tuberculosis? Because the illness does not follow immediately after the exposure, the danger is lost sight of. It is, however, none the less imminent. Personally, I would sooner have cholera and die soon, or get well, than have tuberculosis and linger a long time and finally die. The great secret of success in the management of tuberculosis is to cease infecting other persons. Those who are ill, less a few who may recover, will die off. Save those who are not yet affected. Destroy fearlessly tubercular cattle. Remove from schools, colleges, offices, stores, workshops, those who are tubercular; safeguard the conduct of those who are known to be afflicted, so as to protect the public to the utmost. Rigidly prohibit the marriage of those affected. These precautions would soon lessen—almost annihilate the consumptive sick and death-rate. Advice is all very well, but people will not always follow advice. Compulsory measures must be called in.

It is quite useless to expect parents to withdraw their consumptive children from school on the advice of some physician. The teacher, who is ill with tuberculosis, will not give up his or her class until the disease is so advanced that rest becomes a necessity. The factory hand will continue his daily toil amongst his fellow workmen coughing and spitting, until his employer lays him off because he is no longer able to earn his daily wages. The consumptive will marry, despite admonition to the contrary. Nothing will control, nor guide, these classes along pathways that are safe to the general public but the strong arm of the public will, as expressed in a well thought out series of legal enactments. We all commiserate the maniac, but we do not allow him to run at large. We need not sympathize with the consumptive less because we try to prevent his giving the dread disease to others. Some inconvenience and restriction might fall upon him, but this is the sacrifice he must make for the good of others. In turn for this, the well must bear some of the burden of the destitute sufferer and afford him a proper retreat.

STATISTICS OF TUBERCULOSIS IN CANADA.

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IN a study of this subject we are, I am sorry to say, led against a blank wall at the outset, for apart from those of Ontario and Quebec there are no vital statistics obtainable. Through the kindness of Mr. Walter Brown, Secretary of the National Sanatorium Association, communication has been had with each of the Provinces with the answer, "no statistics," with the above exceptions.

The prevalence of the disease generally will have to be simply estimated and our study confined largely to conditions in our own Province. Yet, when we consider its extent and its varied conditions, the field may be large enough to be of value to us. Adopting the report of the Registrar-General, published for the year 1899, as a basis, we find that the death returns in Ontario for tuberculosis and scrofula were 3,405 out of a total of 28,607 in an estimated population of 2,302,705. In Quebec in 1897, there were 3,079 out of a total of 34,287 deaths in a population of 1,626,869.

Respectively these figures show a death rate of 1.5 for Ontario and 1.89 for Quebec per thousand of population, while the total deaths from all diseases were 12.4 and 21.07 per thousand. In other words that of those who died in Ontario, one in every 8.26 died of tuberculosis or scrofula, and in Quebec one in each 11.1. The difference in favor of Quebec being largely due no doubt to the infant death rate in that Province.

Adapting the Ontario rate to the Dominion at large, we would have a total of 7,950 deaths, and by extending the same rate to Great Britain and Ireland, Australia and the United States, we have an appalling total of 189,450 deaths each year. Is it any wonder then that we ask for statistics that by our very fears we may be goaded into greater activity in combating this dread scourge which carries desolation everywhere, and is, without question, our nation's most active foe.

Comparing the death returns in semi-decades during the last twenty-five years, we find that the returns for Ontario show in—

Population.	Total deaths.	From tuberculosis.	Percentage of total deaths.	Rate per 1,000 of population.
1875 .. 1,737,891 ..	22,821	2,297	10.06 per cent.	1.32
1880 .. 1,884,200 ..	19,802	2,154	11.36 "	1.14
1885 .. 1,923,610 ..	22,105	2,313	10.46 "	1.25
1890 .. 2,161,971 ..	24,013	2,503	10.42 "	1.15
1895 .. 2,211,101 ..	22,461	2,472	11. "	1.11
1899 .. 2,302,705 ..	28,607	3,405	11.81 "	1.48

If we now compare the deaths with those caused by other diseases, which have an important place in mortuary returns, we find that—

Influenza has	990	victims
Pneumonia has	1,825	"
Diphtheria and croup have.....	599	"
Diarrhoeas in children have.....	1,089	"
" not infantile, have	425	"
Heart disease has	1,382	"
Typhoid has	452	"
Cancer has.....	1,041	"
Scarlet fever has.....	246	"
Peritonitis and appendicitis have.....	418	"

In carrying our investigation still farther, and more particularly from the clinicians standpoint, it will be interesting to examine as to how many deaths occurred in the different forms of tubercular invasion. Here our Ontario returns are inadequate so that we are obliged to seek figures from the city of Montreal for 1897, when out of a total of 875 deaths there were—

585 or 67	per cent.	due to Pulmonary involvement.
27 or 3	"	" Peritoneal "
104 or 12	"	" Meningeal "
98 or 11	"	" General "
13 or 1.5	"	" Involvement in other organs, and
48 or 5.4	"	" Scrofula.

We have been taught that age, sex, occupation, and climatic conditions are predisposing factors in increasing the individual's liability to infection. On analysis of these 3,405 deaths we find:

319 or 9.3	per cent.	occurring in infants under 1 year.
80 or 2.3	"	" children from 1 to 4 years.
56 or 1.6	"	" " 5 to 9 "
95 or 2.7	"	" " 10 to 14 "
294 or 8.6	"	" young adults " 15 to 19 "
517 or 15.1	"	" " 20 to 24 "
427 or 12.5	"	" adults " 25 to 29 "
309 or 9.0	"	" " 30 to 34 "
291 or 8.5	"	" " 35 to 39 "
216 or 6.3	"	" " 40 to 44 "
147 or 4.3	"	" " 45 to 49 "
262 or 7.6	"	" " 50 to 59 "
217 or 6.3	"	" " 60 to 69 "
88 or 2.2	"	" " 70 to 79 "
21 or .6	"	" " over 80 years.

In the first four decades then the first claims

	13.3	per cent.	of all deaths.
The second claims	11.4	"	"
" third	27.7	"	"
" fourth	17.6	"	"

On classifying the deaths according to sex we find that 1,772 were females and 1,633 males. If we begin, however, to look more closely we find that in the

1st decade, of 504 deaths,	54.9	per cent.	were males and 46.1 females.
2nd " 309 "	39.3	" "	" 60.7 "
3rd " 944 "	41.8	" "	" 58.2 "
4th " 600 "	48.8	" "	" 51.2 "
5th " 364 "	48.0	" "	" 52.0 "
6th " 262 "	50.0	" "	" 50.0 "
7th " 217 "	63.5	" "	" 36.5 "
8th " 88 "	59.0	" "	" 41.0 "
Over 80 years, 21 "	66.7	" "	" 33.3 "

Studied as to the effect of occupation we are only able to give somewhat indefinite figures, not having the population classified in this manner. After eliminating 503 children under 10 years and 247 persons of no occupation, we have of those whose work demands a large proportion of time spent out-doors, 865 deaths, while of those whose life is largely indoor we find 1,770 deaths, this including 715 housewives and 495 spinsters, who no doubt are largely subjected to the same conditions as the housewives, aside from childbearing. Farmers account for a large percentage of the total deaths, there having been 440 from this class. Of students we find 89, of servants 84, of clerks 64, while of railway employes there were 22, of gardeners 22, and carpenters 28, and of laborers 228.

As to the proportionate death rate in rural and urban communities, we are simply able to offer an estimate. The city population comprises 445,777, the county town 150,095. If to these we add 200,000 so as to include other towns and villages of the Province, we have a total of 795,872 individuals who account for 1,610 deaths. This would leave 1,795 deaths occurring in the rural population of 1,506,833. Respectively this will give a death rate in the

Urban population of 2.	per 1,000, and in the
Rural " " 1.1	" 1,000.

When we come to consider the effect of temperature, relative humidity of the atmosphere, and character of the soil, upon the frequency of the disease, it will, I think, be just to accept as diverse physical conditions as possible. These we find in the Western and Eastern portions of the Province, while an intermediate area will be found in the Niagara Peninsula.

Tabulated so as to present the varying features as distinctly as possible, we find as follows :—

County.	Altitude.	Character of Soil.	Mean Temp.		Relative Humidity.		Death Rate per 1000.
			Winter.	Sum.	Win.	Sum.	
a	Perth	Clay Loam.					
	Waterloo	" " & Sandy Loam					.71
	Wellington	" " "	27.3°	58.8°	84.5	78.3	1.11
	Dufferin	" " "					1.05
b	Lincoln	Hard clay and					
	to	Clay Loam with					1.74
	600 ft.	Subsoil of	30°	62.6°	80.3	77.1	
	Welland	Red Clay.					
c	Carleton	Clay and Clay					
	Leeds and	Loam with					1.54
	Grenville..	Subsoil of Clay.					
	Stormont, Dun-	Loam with					
	garry	Subsoil of Clay.					
	250 ft.						
	Carleton	Clay Loam with					
	Leeds and	swamp.					2.17
	Grenville..	Largely clay.	24.6°	60.5°	83.3	77.	2.22
	Stormont, Dun-						
	garry	with clay loam.					
	250 ft.						1.96

A. and C. present the extremes of height above Sea Level and the latter has a large percentage of heavy clay soil. B. is intermediate in altitude but besides having hard clay soil there is an almost impermeable substratum of clay.

Another and the last series of figures I have to present, are as to the different modes of onset in the disease, dealing with 119 cases.

- (a) Following repeated colds, with cough persisting, 23.
- (b) Cough, with no previous cold nor special debility, 8.
- (c) Cold with preceding debility, 14.
- (d) Cough only, 13.
- (e) Cough with previous history of inflammation or congestion of lung 6.
- (f) LaGrippe, 10.
- (g) LaGrippe with dry pleurisy, 6.
- (h) Pleurisy, " effusion, 7.
- (i) Pneumonia, 11.
- (j) Measles, 1.
- (k) Initial haemoptysis (in most cases a previous history of debility) with previous cough, 9.
- (l) Slight cough persisting from 1 week to 5 or 6 months followed by haemoptysis, 11.

In summing up the results of our investigation, it is interesting to note. (a) That there has been no decrease during the last 25 years in Ontario, while in England due to improved sanitation, there has been a large decrease.

(b) The death return from this scourge, is as great as that from the combined diseases of influenza, pneumonia, diphtheria and croup, as great as that arising from the diarrhoeas, heart disease, and cancer; and greater than the mortality following pneumonia and the diarrhoeas of children and adults.

(c) The frequency of meningeal involvement in Montreal, causing 12 per cent of the deaths

(d) That almost 10 per cent of deaths are in children under one year. That 15.1 per cent die between 20 and 24, the largest percentage of any period, and that 12.5 per cent die between 25 and 29, while the least mortality 1.6 per cent is that between 5 and 9 years. That of the decades the 3rd, is more fatal by half than that of any other period of life, the next being the 4th.

(e) That the death rate amongst males exceeds in the 1st, decade and during and after the 7th, being still greater after 80 years, whilst amongst females it exceeds between 10 and 40 years, being greatest between 10 and 20.

(f) The great disparity estimated between the rate in the urban and rural population, the town inhabitant being almost twice as liable to infection as he of the country.

(g) That altitude and soil seem to exercise a considerable influence in increasing the individuals liability to infection. The temperature and humidity in the different sections of our province not presenting sufficient variation to warrant deducting any conclusions therefrom.

(h) The large percentage of infections following repeated colds, debility, and those associated with pleurisies. The first two suggest precautionary measures, while the latter tends to confirm the observation that pleurisies are very often tubercular in character. The considerable percentage of cases with an initial haemoptysis suggests that we should be more exact in our examinations of the chest and precise in our discrimination of the conditions there. It would also suggest to us the need of chest examinations in cases of debility, as also does the last set of cases with but *slight* cough.

The writer desires to thank Dr. Bryce, Dr. Elliott, and Mr. Stupart, of the Meteorological Office, for their valuable and kindly aid in obtaining the figures presented above.

MILITARY MEDICAL TOPICS AND NEWS.

Conducted by Major Nattress, P. M. O. M.D. No. 2.

ENLISTMENT OF RECRUITS:—The call for men for the 2nd Regiment Canadian Mounted Rifles was so heartily responded to all over Canada the authorities at Ottawa were prompted to offer to His Majesty's Government an increase of the establishment from four to six squadrons.

This was promptly authorized and brought up the strength of the regiment including the staff to over 900.

A further offer of a Field Hospital has been accepted. The strength of this unit together with its transport will be something over 60, making a total of about 1,000 officers and men for the new contingent.

With so much good material everywhere to choose from the selection has been an arduous duty both for the Recruiting officer and the Medical officer.

For service in this contingent the following standard was fixed :

Not under 20 years nor over 40.

Not under 5 ft. 5 in. in height.

Not to weigh more than 185 pounds.

To have a chest measurement of not less than 34 inches.

To be medically fit according to Imperial Yeomanry conditions.

The medical officer is specially instructed to give his attention to the eye-sight and to the condition of the teeth of the recruit. That is all very well but we have not been given instructions that would apply more particularly to the Canadian Service. Why should not glasses be allowed amongst the rank and file? Astigmatism for example is not a disease and appropriate glasses remedy the condition perfectly. If glasses were permitted even to a limited extent it would save us the necessity of having occasionally to "turn down" an especially desirable applicant.

English Army Regulations say "Loss or decay of many teeth" is a cause for rejection but what about the man who is wearing (with entire satisfaction) a well-fitting complete set of artificial teeth? The same necessity for a recognition of this condition does not obtain in Great Britain as in Canada. The recruits for the English Army are not usually from that class who gives much attention to the teeth.

EXAMINATION OF RECRUITS.—A few remarks on the procedure of examinations might be of some interest to the readers of the Lancet.

Before stripping the recruit is placed with his back to the examiner

at such distance as the room will allow which should not be more than 50 feet, for testing the hearing by the ordinary tone of voice. The voice should be lowered in proportion to the diminished length of the room. The usual question is "What is your name?" Receiving a prompt reply the assistant steps up and places his finger over the right ear in such a manner as to press down the tragus and exclude all sounds from that ear when further questions in the same tone of voice are asked him the assistant stepping to the other side and in turn excluding all sounds from the left ear.

This test proving satisfactory, the applicant takes up a position alongside the medical officer, and standing with his back to the light, is asked to read the "test dot card" held nine feet away, testing first the right eye and then the left. Following this is the examination of his head, face, neck and hands, also his mouth, teeth, nose, throat and voice.

Having satisfied the medical officer thus far, he goes into an inner room to undress and appears again before the examiner absolutely naked. His height and weight are taken. (I would like to say here that some officers fall into the error of taking height and weight before undressing.) His chest measurements, maximum and minimum, are recorded. His heart and lungs are examined and he is here bodily inspected from head to foot, certain regions receiving special attention, such as the groins, perineum, scrotum, spine, legs and feet. Other characteristics indicative of weak bodily state are here noted. For instance, long thin neck, poorly developed muscular system, disproportionate height, weight and chest measurements, loose flabby white skin, long flat feet, very fair complexion, fair hair, etc.

CAUSE OF REJECTION.—Some who present themselves are below the standard measurements fixed, while others are the victims of some chronic disease. A larger number are rejected however for one or more of the following conditions:—Large varicocele, varicose veins in legs, defective eyesight, chronic discharge from ears with deafness, hammer toe, overlapping toes, exaggerated scoliosis, bad teeth, marked outward deflection of great toe, enlarged glands and old scars in neck, exophthalmic, goitre, undescended testicle, stammering, etc.

ABNORMAL AND EXCEPTIONAL CONDITIONS OBSERVED.—Webbed toes, hypospadias, cleft palate, four rudimentary nipples, scars from operation for hair lip, appendicitis, circumcision, empyema and bullet wounds received in South Africa. Tattoo marks, of course, are very common, also nævi.

Remarks.—It is interesting to observe the varying effect a medical examination has upon the nervous system. Taking the heart as an indi-

cation, some are unmoved, the pulse keeping steady at about 60, while in others the heart thumps away at from 130 to 140 per minute. After being seated for some time and witnessing others go through, the excitement passes off. One man was so nervous he could not see. I felt him trembling as I put my hand on his arm, and asked him what was the necessity for being so nervous. I asked him to stand aside and watch others count the dots, but when I tried him again I got the same unsatisfactory result. I left him to complete the examination of those in the inner room. In my absence the assistant tried him and reported to me that he counted the dots every time without a mistake. My third trial, however, was no more successful than my first or second had been.

One sees also as much variety in body form as we meet daily on the street in face and feature. I called the attention of one brawny young Scotch-Canadian from Glengarry to the great length of his feet, when he quietly reminded me that Max O'Rell gave that as the reason why the Scotchman wore kilts, trousers being too narrow to get his feet through.

NO. 10 FIELD HOSPITAL.

The officers selected for this hospital for service in South Africa are :—

Commanding Officer—Lt.-Col. A. N. Worthington, A. M. S., Sherbrooke.

Major—Major G. C. Jones, A.M.S., Halifax.

Captain—Major D. H. Johnson, A.M.S., Charlottetown.

1st Lieutenant—Lient. J. A. Roberts, A.M.S., Toronto.

2nd Lieutenant and Quartermaster—2nd Lieut. H. E. Tremayne, A.M.S., Toronto.

The selection of officers is an exceptionally good one. They have all been taken from the Army Medical Staff which speaks well for this corps as it is barely two years old, the date of its organization being 1st March, 1900. Col. Worthington has already had a year's service in South Africa with the Canadian Artillery and consequently goes back in possession of a lot of valuable experiences. His staff is an exceedingly good one. It is also gratifying to know the men have been selected almost solely from the only recently organized Bearer Companies and Field Hospitals throughout the Dominion, and comprise many specially qualified from which to select a good staff of non-commissioned officers.

CURRENT MEDICAL LITERATURE.

Conducted by A. J. MacKENZIE B. A., M. B.

RENAL DISEASE AND THE CIRCULATION.

THE *Practitioner* for Nov. 1901, is a special "Bright's Disease number," and contains seven original articles on this subject, dealing with it in its relation to the circulation, to uraemia, to skin eruptions, to the clinical forms, to the mental conditions associated, and to its occurrence with certain specific fevers, and closes with an article on Richard Bright, in the series "Heroes of Medicine," accompanied by an excellent portrait of that famous pioneer in therapeutics.

The first article is by Sir Richard Broadbent and is entitled "Renal disease and the circulation." This distinguished physician sums up the subject by saying that the primary and dominant effect of disease of the kidneys on the motion of the blood is obstruction in the capillaries and the arterioles and he is convinced, notwithstanding eminent authority to the contrary, that the primary seat of obstruction is in the capillaries, the contraction of the arterioles being secondary to this, the evidence from retinal and other haemorrhages being that the arterioles burst, therefore the obstruction is beyond. The sequence of changes is then, first, obstruction, then a protective contraction of the arterioles and small arteries followed by increased pressure and resistance, and compensatory increase in cardiac activity. The resulting character of the pulse in granular contracted kidney is as follows: there is felt no increase or decrease in the size of the artery, but if we flatten the vessel by pressure in the interval, this change of shape is rectified by the increased internal pressure of the pulse wave, or in the words of the writer, "the special character of a renal or high tension pulse is not the force required to compress the artery, nor the force or violence of the beat, as it is impressed on the finger but the point to observe is the fulness of the artery between the beats, and the absence of the sudden subsidence of the vessel after the beat."

The pulse in the earlier stages of Bright's disease will usually be small, the artery being in a state of contraction. The beats will be inconspicuous from the small size of the vessel, and from the fact that it is not readily flattened on account of the internal pressure. Such a pulse is very often described as weak. It will be found that the artery can be felt between the beats, and can be rolled under the finger, and when

the attempt is made to extinguish the pulsation and compress the artery the pulse seems to become stronger as the increasing pressure is applied

Changes in the arterial coats result, causing a thickening of the walls, followed by dilatation due to the tension of the blood within, and then we have the characteristic renal pulse, large, the pulse wave long and dwelling under the finger, gradual in its rise and fall, or more sudden if the arterial system has undergone much degeneration, the artery full between the beats, thick walled, rolled under the finger like another tendon and usually tortuous.

The sequence of changes in the heart is increased vigor of the systole, with marked apex thrust, and an accentuated aortic second sound, then enlargement of the left ventricle, hypertrophy, fibroid change and finally dilatation. The indication of the latter is generally reduplication of the first sound, due to lack of synchronism of the two ventricles

In acute tubular nephritis, the effects on the circulation are inconstant owing to the various factors involved as pyrexia, intoxication, etc. Generally speaking, obstruction develops too quickly for compensation by the heart, and we get a pulse rather small, the artery full between the beats, without marked tightness, and in which on compression the wave is easily arrested. Development of renal tension is generally the first step toward improvement.

In the chronic tubular form of Bright's disease, whether primary, or resulting from the former, a moderate degree of arterial tension usually prevails, but the changes in the vascular system are not so important as in the forms previously described. However hypertrophy of the left ventricle and arterio-sclerosis usual result.

The effects of these circulatory conditions may be classed in two divisions, (1) those directly due to lesions of the heart and its vessels, cardiac dilatation and asthenia, with attendant dyspnoea and dropsy, and cerebral, retinal, and other haemorrhages, and (2) the production of conditions due to uraemic poisoning.

The therapeutical indications for the conditions described are venesection, the most effectual and speedy means in case of uraemic convulsions, the use of saline and other purgatives, and the use of vascular relaxants.

PROLONGED ACTION OF THE HEART MAINTAINED BY ARTIFICIAL RESPIRATION.

DOCTORS Redfern and Newby, of the Croydon General hospital, report an interesting case in the *British Medical Journal* of December 14th, 1901, in which prolonged action of the heart was maintained

in a new-born infant by artificial respiration, in the absence of other signs of life. The child, a well-developed male, was delivered with forceps at 3.30 p. m. from a primipara; the cord was found encircling the neck three times, but the delivery was not unusually difficult. The heart was found beating normally and the cord pulsating, but there was no response to attempts to induce natural respiration, so tracheotomy was performed and a tube introduced through which artificial respiration was kept up by means of a small bellows. So long as inflation was maintained the heart beat regularly at a rate of 100 or over, but on cessation the heart showed signs of failure; at the end of two hours and a half, during a short intermission of the bellows action, the first inspiratory effort was made and was repeated shortly after. From this time on, breathing was continued at a rate of twenty to thirty per minute, the bellows being used occasionally, as it seemed to stimulate the heart, and this was maintained until 4.20 a. m. when death occurred, attended by deep cyanosis.

The points of unusual interest in this case are: (1) That the heart beat continued good for two and a half hours, without any voluntary respiratory effort, during which time artificial respiration was carried on; (2) increased use of the bellows produced marked quickening of the heart beat; (3) the child never gave any other sign of life than action of the heart and lungs, and clonic spasms of the right hand.

The causes of respiratory failure in this case involve the consideration of the following possibilities: (1) That it may have been caused by strangulation of the neck by the cord possibly producing pressure on the vagus, or phrenic nerve fibres, or (2) by the action of the chloroform inhaled by the mother and carried through the cord to the child, or (3) by injury to the respiratory centre through pressure of the forceps on the child's head.

If the second of these considerations may be entertained, the case would afford a striking example of respiratory failure preceding cardiac failure, and due to chloroform anaesthesia.

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EDITORIAL.

SANATORIUM FOR TUBERCULOSIS IN CALGARY.

THE City Council of Calgary has appealed to the Dominion Government for assistance and co-operation in erecting a suitable sanatorium for tuberculosis in that place. They protest that many patients from all parts of the Dominion are attracted to that district by reason of its climatic advantages, only to be exposed to hardship and suffering from lack of suitable accommodation for their treatment. They have to live in hotels or boarding houses and thus become a menace to the health of the community. The city council is willing to assist in making provision for these unfortunates, and there is much justice in their request for aid from the Dominion Government, seeing that the matter is not one of purely local interest.

CANADIAN MEDICAL PROTECTIVE ASSOCIATION.

AT the Ottawa meeting of The Canadian Medical Association, a committee was appointed to consider the advisability of forming a Medical Protective Association and to report at the Winnipeg meeting in 1901.

The committee reported that they believed it to be in the interests of the medical profession of Canada that an association should be formed for the protection of such members of the medical profession as may become members, and who may be unjustly prosecuted for malpractice. The object of the association is to protect the members from prosecution where such action appears to the legal advisers of the organization, as well as to the committee in charge, to be unjust, harassing or frivolous.

The report was favorably received and adopted and the organization is now in good working order. The officers elected are :—President, Dr.

R. W. Powell, Ottawa, Vice-President, Dr. Camarind, Sherbrooke; Secretary, Dr. F. W. McKinnon, Ottawa; Treasurer, Dr. J. A. Grant, Jr.

Every member in good standing of the medical profession in Canada is eligible for membership on payment of the annual fee (which for the present has been fixed at \$2.50), except when an action against the physician is threatened or pending at the time of his application.

In case of action for malpractice against any member of the association, if the executive decides that it is a proper case for defense, the matter will be carried through all the courts until a satisfactory decision is obtained, but under no circumstances will a compromise be made.

THE LANCET has advocated the formation of such an association and now that it is in existence it is to be hoped that it will be supported by the profession throughout the Dominion. The membership-fee is trifling considering the protection afforded, and the existence of a strong central organization, as this should be, with means to fight every case to a finish, will do much to discourage litigation. Once remove the motive prompting most of these actions—the extortion of money in the way of a compromise rather than bear the expense, annoyance and uncertainty of defence—and the shyster lawyer will have no object in urging unscrupulous or vindictive individuals to enter actions in which there is no chance of financial gain.

THE ONTARIO MEDICAL LIBRARY ASSOCIATION.

THE fourteenth annual meeting of the above association was held recently when a large representation of the membership was present. While this association since its formation has succeeded in making a large and most valuable collection of medical books, journals and society reports, and has done much to facilitate medical research in Toronto and throughout the Province, the library has not received the support from the profession at large that it deserves. A good library is absolutely essential to those preparing papers for societies or for publication, as well as for those engaged in medical research, and if Toronto is to maintain her position as a centre for medical education, the library must be built up and properly supported. Since the payment of stock originally subscribed, the revenue from the small membership has not been sufficient to pay the cost of maintenance and to provide new literature. The membership must be increased and, if necessary, a higher annual fee imposed if the library doors are to be kept open. Many of those who appreciate the importance of the library, have given freely

of both time and money to make it a success. A special subscription asked from those at the annual meeting was freely contributed to, which has tided the financial difficulty over for the present. There was no disposition shown on the part of those present at the annual meeting to see the library doors closed for want of funds, but it is necessary, however, that a more satisfactory permanent basis of support be established in order to build up a library worthy of the profession of this city and province. Physicians in the province outside of Toronto, have access to the library free, and may obtain books for a limited time on paying express charges on them both ways. For city membership the minimum annual fee is \$2.00, though a number of members voluntarily contribute \$5.00 and \$10.00 annually. By means of arrangements made by the President, Dr. J. F. W. Ross, members of the association may obtain books for a period of two weeks from the Surgeon-General's library at Washington by paying express charges on them. Were the advantages of membership better known no doubt the association would receive the support of all progressive practitioners who can make use of it.

TORONTO GRADUATE NURSES' REGISTRY.

THE organization of a Nurses' Registry in Toronto is a departure that should prove a great convenience to physicians. An unsuccessful attempt in this direction was made some years ago by those who appreciated the advantages to be gained from having an organization to include nurses from all hospitals requiring a recognized standard of training, with a central office to which application might be made when the physician wished to obtain the services of a nurse. On the present occasion we are pleased to learn that Mrs. Macpherson, herself a trained nurse and director of the Rosebery Home, 110 Carlton St., Toronto, has succeeded in establishing a registry. The organization has the support of the Toronto General Hospital Training School Alumnae Association, though graduates from all recognized schools are eligible for membership. The management is placed in the hands of an executive committee elected by the members.

In case a nurse is required by a physician, the latter may apply to the Registry, when he may ask for the services of any particular nurse available at the time, or otherwise, the nurse next in order of rotation will have the chance of accepting the call.

The scheme has many obvious advantages to commend it. It will save the physician much time and trouble by enabling him to apply to a central office, which undertakes to procure the nurse. It is also a guaran-

tee of the professional *status* of those whose names are on the register, and as the organization has the endorsement of the nurses themselves it should receive the hearty support of the medical profession.

TORONTO PATHOLOGICAL SOCIETY.

THE annual open meeting of the Toronto Pathological Society was held on Saturday evening Jan. 4th, Dr. R. D. Rudolf, president in the chair. About one hundred and fifty members of the society and visitors were present. Prof. J. George Adami, of Montreal read a paper on the classification of tumors based on recent embryological developments. The paper, which will be published shortly, dealt with the many difficulties and the unsatisfactory features in previous classifications. It would be an injustice to Professor Adami's paper to attempt to epitomize it, but in the opinion of those who listened to him, he has made a long step in advance in solving the difficult problem of a satisfactory classification of tumors, and the publication of his paper will be awaited with much interest.

Dr. H. B. Anderson read a paper on the Cardiac complications of Gonorrhoea, reviewing the literature of the subject and reporting a case which recently came under the observation of Dr. John L. Davidson and himself. Dr. A. McPhedran and Dr. J. J. McKenzie, made a preliminary report on an interesting case of thrombosis of the cerebral arteries complicating chlorosis, and resulting in death.

A large number of specimens illustrating rare and interesting pathological conditions, was on exhibition.

OBITUARY.

DR. LESSLIE MATTHEW SWEETNAM.

THE news of the death of Dr. Sweetnam at the Johns Hopkins Hospital, Baltimore, on Dec. 11th, came as a great shock to his many friends among all classes in Toronto but especially to his friends and associates in the medical profession. Dr. Sweetnam, in washing his hands after operating on a patient with a gangrenous arm, received a trifling puncture beneath the finger nail with a bristle from a brush. He paid little attention to it for some days until the infection began to spread rapidly up the arm. In order to get rest and freedom from professional responsibility so essential to his treatment, he went to

Baltimore, where one or two small operations were performed on his finger. The infection soon subsided and his temperature had reached the normal point, when quite unexpectedly and without previous indication, convulsions set in on the morning of Dec. 11th and recurred frequently until his death in a few hours. As no autopsy was made, the nature of the convulsive seizures is not definitely known.

Dr. Sweetnam was the eldest son of the late Matthew Sweetnam Esq. He was born in Kingston in 1859 and was educated at Upper Canada College and Toronto School of Medicine, receiving the M. B. degree from Toronto University in 1881.

He began practice in Toronto and his skill, devotion to his calling and kindly disposition soon gained for him a large patronage. He was appointed associate professor of clinical surgery in the University of Toronto Medical Faculty and surgeon to St. Michael's Hospital, Toronto. He was also a member of the Senate of Victoria College. In 1885 he married Margaret Victoria, daughter of C. H. Gooderham, Esq., of Toronto.

Dr. Sweetnam was a member of the Methodist church. He was a gentleman of wide culture and possessed a disposition full of the milk of human kindness. Next to his absolute and unselfish devotion to his profession, probably his most distinguishing characteristic was the personal magnetism, which won for him the complete confidence and made him almost the idol of his patients. His early death, under such peculiarly sad circumstances, at the very zenith of a successful career, called forth expressions of the sincerest regret and sympathy, from the lay press and from all classes of the community. His funeral, the largest which ever entered Mt. Pleasant cemetery, was attended by most of the medical profession of the city and large numbers of other prominent citizens. To the writer, however, the most touching and sincere tribute to his memory, was paid by the dozens of poor men, women and children, in threadbare garments, who hung round the outskirts of the crowd of well-dressed, prosperous-looking citizens who attended the service at his late residence on Church St. They had come to pay their last poor tribute to one who had befriended them.

To have died in the harness, as the result of an infection received while operating on a charity patient, esteemed by all who knew him and worshipped by many, in the height of his prosperity, is not all a matter for sad reflection; and if life were measured by what one has accomplished Dr. Sweetnam reached much nearer the allotted span than his years would indicate.

PERSONAL.

Dr. Golden of Highgate, has removed to Ridgetown.

Dr. McKeough, of Chatham, spent Christmas in Montreal.

Dr. Scott of Oil Springs, leaves shortly to spend a while in England.

Dr. and Mrs. W. H. Rice, of Sydney, C.B., have returned home after a visit to Toronto.

Dr. A. A. McCrimmon, of Beaver Mills, Ont., has been appointed a coroner.

Dr. Clutterbuck, of Delhi, Ont., has accepted a position in the Woman's Hospital, N. Y.

Dr. A. J. H. Hough, of Wiarton, has been appointed associate coroner for the County of Grey.

Dr. J. N. Harvie of Orillia, has resumed practice after a time spent in post graduate work in New York.

Dr. Geo. A. Pickles, of Mahone Bay, a well-known practitioner in Nova Scotia, died on Dec. 30th.

Dr. Henderson, of Sarnia, has been appointed Surgeon of the 27th Regt. with the rank of Surgeon Lieutenant.

Dr. J. O. Orr, of Jarvis St., Toronto, has been appointed Lecturer on Bacteriology to the Toronto Technical School.

Dr. Riddell, of Crystal City, Man., is looked upon as the future Liberal candidate for the Dominion vacancy in Lisgar.

Dr. Frederick Harvey, of Wolfville, N.S., who has been studying in England, has taken up practice in St. John, N. B.

Dr. and Mrs. D. H. Wilson of Vancouver, recently paid a visit to their friends in the eastern part of the Dominion.

Dr. Frank Lundy of Portage la Prairie, visited Ontario lately. He has spent some time in New York in post graduate study.

Dr. Culbertson, of Durham, Ont., has returned from Europe where he has spent some time pursuing his medical studies.

Dr. A. B. Osborne, of Hamilton, was married on Jan. 2nd to Mrs. Rose Augusta Tudor, widow of the late Francis H. Mills.

Dr. Bradd, of Peterboro, has been appointed district surgeon for the Grand Trunk Tailway, in succession to the late Dr. King.

Dr. H. L. Dickey, of Charlottetown, P. E. I., has removed to Halifax, where he will confine himself to eye, ear, nose and throat work.

On Christmas day, Dr. Jean Cruickshank, of Weston, was married to Dr. Louis G. Bailey, of the General Hospital, Stonega, Va.

Dr. A. P. Chalmers, (Trinity '92) has resumed practice in Oil Springs, after having spent some time in post graduate study in Europe.

Dr. Norman M. Harris, Associate in Pathology, Johns Hopkins Hospital, has returned to Baltimore after having spent a short time in Toronto.

Professor Adami of McGill College, Montreal, read a paper on the Classification of Tumors before the open meeting of the Toronto Pathological Society, on Jan. 4th.

Dr. J. Alex. Hutchison, of Montreal, surgeon-in-chief to the Grand Trunk railway, has been appointed to a similar position on the Central Vermont Road.

Dr. Macdonald, Superintendent of the Hospital at Dawson City, is paying a visit to Montreal. The doctor states that there has been comparatively little sickness in the Yukon district this year.

Dr. H. Tremayne, who goes to South Africa as a lieutenant in the Army Medical Corps, was presented with a pipe, tobacco pouch, and toilet set by Mimico Lodge, A. F. & A. M., of which he is Senior Warden.

Dr. Little of Brandon, has taken up his residence and begun practice at Alexander, Man., and Dr. Lawther, formerly resident physician in St. Boniface Hospital, Winnipeg, has succeeded to Dr. Little's practice.

Dr. Woolard, of the Winnipeg General Hospital, is suffering from an attack of Scarlet fever, contracted from a patient in the isolation wards of the hospital. Dr. Woolard served with the Canadian Artillery in South Africa.

Dr. Thos. Bradley (Trinity '98), formerly of the resident medical staff of the Toronto General Hospital, has entered into partnership with Dr. Fraser of Sarnia. The latter, we are pleased to learn is recovering from an attack of la grippe.

Dr. Pierre Bedard of Montreal, narrowly escaped drowning in the St. Lawrence river. When returning from visiting patients across the river his sleigh went through the ice but after twenty minutes struggle in the water he managed to get out.

Dr. W. H. Groves, a graduate of Toronto University, who has been in Europe for some time past, was recently appointed surgeon of the R. M. S. Sekondi. flagship of the African Steamship Company, plying between Liverpool and the west coast of Africa.

BOOK REVIEWS.

A TREATISE ON SURGERY BY AMERICAN AUTHORS.

For Students and Practitioners. Edited by Roswell Park, A. M., M. D., Third Edition.
Enlarged and Revised, Lea Bros. & Co., 1901.

This beautifully printed and illustrated volume gives evidence upon every page, of a most painstaking and conscientious attempt to exhibit the present status of the science and art of surgery within the compass of a single book. The work of the contributors throughout is of a very high order and it is equally evident that the editor has permitted no slighting of any section of the work. Since the death of Drs. J. H. Etheridge and H. H. Mudd certain changes in the editorial staff have been made. The chapter on Surgical Gynecology is exceedingly well prepared by Dr. M. A. Crockett, of Buffalo, while the editor-in-chief has revised the section on Fractures and Dislocations. In no other work with which this reviewer is acquainted has the subject of blood examinations as applied to surgery been so satisfactorily dealt with. The new and growing importance of this subject justifies the space given to it. One has only to compare a volume like this, or this volume itself, with works upon surgery issued but a few years ago, to understand how rapid has been the advance in surgery and how admirable are the methods by which such advancement is brought within reach of every practising surgeon. It is a genuine pleasure to commend such work as that which has been done by Dr. Park and his co-labourers, in the preparation of this volume. Credit is reflected upon American surgery by it and we all become the debtors of such earnest, accurate and progressive teachers.

N. A. P.

AN AMERICAN TEXT-BOOK OF PATHOLOGY.

Edited by Ludvig Hektoen, M. D., Professor of Pathology, Rush Medical College, Chicago ; and David Riesman, M. D., Professor of Clinical Medicine, Philadelphia Polyclinic. Handsome Imperial Octavo of 1245 pages, 443 illustrations, 66 of them in colors. Philadelphia and London : W. B. Saunders & Co., 1901. Cloth, \$7.50 : Sheep or half Morocco, \$8.50 net, Canadian agents, J. A. Carveth & Co., Toronto, Ont.

THIS work which has just come to hand, marks an epoch in the study of pathology on this side of the Atlantic, and represents both in form and matter, the modern American method of viewing scientific subjects. The series of "American text-books" which has been offered to the medical public during the last few years represents, in its own line, that

tendency toward the practical, that dependence on collaboration, and that faculty of making use of other men's labors that characterises the work of the western scientist. Of the advantage of these composite works there can be no question, of the living interest and real usefulness of these works all who use them must be convinced, but they are marred by the lack of unity, and by the tendency to broad generalisations and deductions wider than experiment warrants. When compared with works by British or foreign authorities, one finds knowledge estimated by the measure of utility, and the atmosphere of the clinic-room rather than of the laboratory.

Pathology as a science is a unit, it has a constant and underlying vital principle which is not and cannot be the subject of experiment, but which is a constant factor in all pathological manifestations, and there is a danger that in the treatment of the subject by various authorities the impression gained by the student will be that of a group of subjects without the necessary unifying constituent; the result is that this work in common with other members of the series will always be a work of reference rather than a treatise. On the other hand we must recollect that we have not had a satisfactory text-book in the subject, that many of the deficiencies of other text-books are here supplied, and at least we get the very latest views as well as the great abiding principles. The practice of medicine has become too engrossing, the field of knowledge too wide, for any one man to be an authority on all aspects of the subject, decidedly so, if we would require an authority to be skilled in laboratory methods, as well as in practical applications. A work prepared by a number of specialists in various branches of pathology would perhaps not be so useful to the ordinary student or practitioner whose aim is to combat disease, as one where the point of view of the writer was his own, but we venture to think that it would be a better treatise on pathology. Now if we examine the list of authors of this work we find that of the nineteen contributions, eleven are men known for their ability and standing as surgeons, and physicians, or lecturers on these particular branches. Two are anatomists, while only the remaining six are employed and recognized as practical pathologists. This marked complexion of authorship is well reflected in the subject matter for we are constantly reminded that the point of view is that of the diagnostician, the clinician, the operator, rather than that of the man who devotes his time to adding to the world's knowledge of pathological processes. Then too, while the position of the various authors is an index of their standing and merit, we cannot help noticing that, taking all in all, the physicians, surgeons and gynaecologists rank higher in their own branches of the profession

than do the pathologists in theirs. The position of the former cannot be taken as an index of their ability as authorities in pathological subjects. for many of them are men whose interests are wide and varied, and whose time is necessarily too limited to permit them to devote the time and labour necessary for an independent and authoritative research of even one aspect of the subject; as to the "pure pathologists" prominent as they are, one notes the absence of several names conspicuous for their eminence in this branch of science in America.

Canadians will be gratified at finding the first section of the work, the general introduction, written by one of our own graduates, Llewellys. A. Barker, Professor and head of the department of Anatomy in the University of Chicago and Rush Medical College. This article, occupying eighteen pages, is comprehensive, interesting, and suggestive, and on the vexed questions of immunity and heredity the varying views are impartially treated, while Metschnikoff's phagocytic theory and the tempting "Seitenkettentheorie" of Ehrlich receive an appreciative but non-committal discussion. It is interesting to read under the heading, "On the methods of studying Pathology," the following expression of opinion, "The phenomena of disease are so complex and the problems connected therewith so difficult that it is folly for the untrained mind to approach them. Before entering on the study of pathology, therefore, a liberal education is a *sine qua non*."

It is, of course, impossible in the space at our disposal to review each separate subject, and we will confine our attention to a few of special interest. The senior editor, Ludwig F. Hektoen, writes on three divisions, "General Morbid Processes," "The Osseous System," and "The Ductless Glands." To the first subject 124 pages are devoted, the headings being, disturbances of the circulation, retrogressive and progressive changes, and inflammation. The process of coagulation of the blood is summed up as follows: "Coagulation of the blood, then, depends upon the chemical reaction between fibrinogen of the blood plasma and the nucleo-albuminate of calcium, in consequence of which an insoluble albuminate of calcium-fibrin is precipitated. Fibrinogen and calcium salts exist in the circulating blood, but the nucleoproteid is derived from the disintegration of the formed elements of the blood, as the leukocytes and the blood-plates. The exact reaction which occurs when fibrin is formed cannot be stated, but it would seem to be quite satisfactorily settled that fibrin is a compound of calcium with a part of the fibrinogen molecule." The author does not venture an independent opinion on the origin of the blood platelets, but contents himself without lining the various theories.

In the discussion of inflammation the work of Metschnikoff, Cohnheim

and Councilman is described and their view of the intra-cellular and phagocytic action of the leucocytes is stated, but the writer holds with Nuttall and others that this gives but one side of the question, and that there is an extra-cellular and microbicidal action also which is an essential part of the process. He sums up as follows: "The broad biologic conception which recognises in inflammation an adaptive, protective, and reparative tendency common to the reactions to injury among all animals is the only theory that allows the full meaning of inflammation to be grasped."

Tumors are discussed by Prof. A. P. Ohlmacher of the North-western University. Under the heading of etiology Cohnheim's embryonal theory is given, namely, that the inception of tumors is due to misplaced cells or aggregations of cells, which, during the various and complicated foldings of the embryo, become misplaced. This is, however, insufficient; there must be a stimulating cause which results in the production of tumors from these remains, for they frequently remain quiescent during life. Bacteria and sporozoa have been suggested, but these are dismissed and the weight of responsibility is laid on the blastomycetes which alone of the organisms found in tumors have been proven capable of external cultivation.

A most interesting chapter is that on Teratology by Henry F. Lewis, of Rush Medical College, in which are swept away by a clever argument the remnants of superstition which ascribe moles, naevi, monsters, etc., to influences, such as fright, directed toward the maternal parent during the period of gestation; while the true causation from fission of the embryonic cell-mass, or abnormal amniotic bands is just as clearly shown.

About 770 pages are devoted to the consideration of special Pathology, the first division being "The blood and blood-making organs" by Cabot, whose work on this subject is a standard text-book. The article, though brief, is comprehensive.

The pathology of the digestive system is discussed by Albert G. Nicholls, Lecturer on Pathology in McGill University, and Assistant Pathologist to the Royal Victoria Hospital, in an exhaustive and careful, if not brilliant, article. Worthy of special mention is the section on gastro-intestinal, auto-intoxication and auto-infection, where we find the work of McCallum, of Toronto, noted, on absorption of iron from the intestine. Adami, of McGill, is quoted on latent infection and sub-infection, which he describes as follows: "This latent infection probably explains those examples of terminal and cryptogenic infection with which we occasionally meet. Micro-organisms are constantly passing into the animal economy from the intestinal tract even under normal conditions,

and they reach the liver and kidneys where they become practically inert. We need only some cause, which increases the virulence of the bacteria, or depresses the vitality and resistance of the parenchymatous cells of the body, to render such infection possible."

Sub-infection, on the other hand, is described as a condition in which, as a result of chronic inflammatory disturbances in connection with the gastro-intestinal tract, there may, for long periods, pass in through the walls of the intestine or stomach a greater number of bacteria; and while the bacteria undergo the normal and inevitable destruction by the cells of the lymph-glands, the liver, the kidneys, and other organs, nevertheless, the excessive action of the cells and the effect on them of the bacterial toxins liberated in the process of destruction may eventually lead to grave changes in the cells and the organs of which they are a part.

Evidence is adduced with regard to cirrhosis to prove that alcohol is not the causal factor, but that its action is rather to promote absorption of toxins from the intestine and to diminish the resisting power of the liver.

The chapter on the ductless glands by Hektoen is extremely instructive and contains much new matter. The parathyroids, which in man are generally found in the capsule of the larger gland, if remaining after thyroidectomy serve as a protection against cachexia thyropriva and myxedema, but the results of experiments with the view of producing this condition are so varied as to be inconclusive as yet. This is true also of the hypophysis which developmentally is analagous to the thyroid.

The pathology of the kidney is very fully treated by David Riesman of the Philadelphia polyclinic, but space forbids us to mention more than the discussion on the theories of displacement of the kidney, and on the so-called kidney of pregnancy.

As to the general features of the work, one must mention the excellent typographical work, which is always a feature of the books produced by these publishers, with the use of black letter type for headings and italics when new terms are introduced, which is such a boon to the student. The illustrations, nearly all of which are original and 66 of which are in colors, are beautifully executed and form an atlas of pathologic anatomy and histology.

A. J. M.

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ON A CASE OF ENLARGEMENT OF THE MIDDLE LOBE OF THE THYROID.

*Periodical Attacks of Dyspnoea Mistaken for Asthma, Extending for over Eight Years.
Eventually Death from the same cause.*

BY J. G. ADAMI, M.D.,

Professor of Pathology, McGill University, Montreal.

THE case about to be narrated is of interest in the first place because of the rarity of so advanced a condition of goitrous enlargement of the thyroid affecting only the middle lobe, and again because of the symptoms to which it gave rise.

The patient was a female of sixty-five, very stout and of large frame; a cook by occupation. According to the statements made by the physician who had attended her during the few days preceding her admission into the Royal Victoria Hospital, she had for the last eight years, according to her own accounts, confirmed by her friends, been subject to periodical attacks of "asthma" which lasted for some few days and then passed off again; otherwise she had been in good health. Twenty days before her admission one of these attacks came on and she suffered much from shortness of breath. This time however the attacks continued and at the end of sixteen days, her distress was so great that Dr. Church, of Westmount, was called in. Upon examination of the chest he could find no dulness any where, but all over the chest, both back and front, he heard numerous coarse rhonchi accompanied by great stridor. There was, however, no elevation of temperature. To relieve the stridor and the tracheal and bronchial irritation which he considered present, he ordered steam inhalations. These gave immediate and great relief. However they evidently did not give permanent relief, for on the twentieth day he was again called in, and now he found the distress much greater. The face was cyanosed, the pulse very rapid and weak, there was slight pyrexia, and upon examination of the chest he heard everywhere moist rales; with these there was some dulness over the left base. Suspecting a beginning pneumonia, he recommended her to be transferred to the hospital, and on the same day she was admitted under Dr.

James Stewart, to whom, and to his house physician Dr. McElroy, I am indebted for the notes of the case.

From these notes, the condition on admission was one of great dyspnoea with cyanosis of the face and finger tips and some puffiness of the eyelids and the feet. The temperature was 103 degrees, pulse 126, respiration 36. Every where in front, moist coarse rales were to be heard; behind, below the angle of the left scapula, the note was impaired, and in this region also coarse moist rales were to be heard; with this there was blowing breathing, not very powerful but distinct. The pulse was weak and irregular both in volume and rhythm. The urine was cloudy, acid, specific gravity 1016, no sugar. A dense ring of albumin was given with presence of hyaline and granular casts.

The patient died a few hours after admission, her condition being such that it was impossible to take full notes.

The patient had a rather short neck with much fat, perfectly symmetrical, and for this reason doubtless neither her attendant, prior to her admission to the hospital, nor the house physician in the hospital, had their attention called to any signs of goitre. The diagnosis in the presence of this blowing breathing, with the dulness at the left base, and with the history that this dulness and the pyrexia had only shown themselves within the last few hours, was difficult; in fact, no definite diagnosis was made, but it was suggested that there was a beginning lobar pneumonia of the left base.

At the autopsy which took place fourteen hours after death, the upper lobes of both lungs were found apparently quite normal and crepitant, there was no emphysema, nor were there any special signs of peribronchitis or of fibroid change such as would have been expected in a case of true asthma. There was some slight bronchitis with thin mucous fluid in the bronchi, sufficient to account for the moist rales which had been heard over the upper portion of both lungs. The lower lobes of both lungs showed a symmetrically great congestion with oedema, affecting all parts save the more anterior portions. On section, while these lower lobes were heavy and greatly congested, they were not hepatized. Slight crepitation could still be obtained, even the densest portions still floated; the section appeared perfectly homogeneous. The oedematous exudation and the cultures both gave diplococci, but not in very great abundance. From the symmetrical nature of the oedema and the general appearance, the conclusion reached was that here was not a condition of acute croupous, but one of hypostatic pneumonia. The condition of the heart and the lungs did not in themselves seem sufficient to explain the cause of death; this, however, was found upon examining the neck organs

Already in the preliminary examination a note had been made concerning the size of the neck, and now the explanation of this was found in the relatively great size of the isthmus of the thyroid. This formed a large mass situated in the median position with the small and somewhat atrophied remains of the lateral lobes of the organ riding upon this mass on either side above. On section this was found to be of the nature of an ordinary colloid, gelatinous or parenchymatous goitre with distended cysts full of moderately colloid material; there were no hemorrhages in it nor cysts.

The affect of this mass upon the trachea was very evident: the organ from about the middle third downwards was flattened from before backwards, passage being reduced to a mere slit with its long axis from side to side. Added to this as a result of the pressure there was intense congestion both in the region of compression and below. The cartilaginous rings, however, showed no obvious signs of atrophy. Here obviously was the primary cause of death. A further enlargement of the already swollen isthmus had led to profound dyspnoea and tracheitis, while supervening upon the congestion of the lungs so produced had been a beginning diplococcus inflammation in the lower lobes and the febrile condition coupled with the congestion and obstruction to the pulmonary circulation had led to failure of the right heart.

The evidence that the clinical history affords is the not infrequent confusion of stridor and dyspnoea with true asthma. In the second place we have this history of recurrent attacks of dyspnoea. These are to be explained by what has already been frequently observed, namely, that goitres undergo from time to time considerable changes in their size, now enlarging and now becoming smaller.

Evidently here this variation in size of the goitre is a sufficient explanation of the fact that the patient at times breathed without much difficulty, at others suffered from these attacks of dyspnoea with stridor.

Lastly it is necessary to say a few words concerning the goitre itself. It is extremely rare to find such extensive enlargement of the isthmus of the thyroid unassociated with enlargement of the lateral lobes of the organ. In fact I have not been able to come across so far, any record of a case quite similar to this.* It is not so very uncommon to have the middle lobe enlarged with one or both of the lateral lobes, and to have as a result, dyspnoea, leading in some cases to death. Or again in a moderately enlarg-

* These notes were written before Dr. H. B. Anderson published in this Journal (Oct., 1900) a very similar case of enlargement of the middle lobe, and were communicated to him, if I mistake not, two years ago upon hearing from him of his case. Failing simultaneous publication, it is well that the two cases should be published in the same journal.

ed isthmus, there may be developed a hæmorrhagic cyst in one portion exercising special pressure upon the trachea. Doubtless the median position of the enlargement and the absence of lateral swelling led to failure to recognize the condition during life.

The main moral to be gained from this case, is that in districts where goitre is prevalent, as it is along the St. Lawrence valley, periodical attacks of so-called asthma should be regarded with suspicion, so that cyanosis accompanied by a certain amount of stridor should lead in the absence of other explanations, to the careful examination of the lower portion of the neck.

FOREIGN BODIES IN THE VERMIFORM APPENDIX—NEW SURGICAL POINTS.

By J. COPLIN STINSON, M.D., C.M.,
San Francisco, Cal.

IT is considered that in about 7 per cent. of all cases of appendicitis, there were true foreign bodies found. The objects that have been found in the appendix are shots, bullets, pins, worms, gall-stones, teeth, pieces of bone, grape seeds, cherry-stones, tongue-grass, wisk broom, pieces of fish fin, oat-husks, date-seeds, apple pips and beans. At a post-mortem examination, Holmes found 122 bird shot in an appendix, and the patient, a man, had had no symptoms during life which pointed to the appendix. Sharp pointed bodies, as pins and spiculæ of bones, are common and quite dangerous. Coleman recorded a case in which a piece of bone was found in a dilated appendix, and had evidently been present for a long time, but externally there were no signs of inflammation. Thus, while foreign bodies generally cause rapidly progressive inflammation, yet even large and rough bodies may give rise to no symptoms at all, or may lead to chronic or recurrent appendicitis. Mitchell collected 33 cases in which a pin was found in the appendix at operation or autopsy, two instances in which a pin had perforated the cæcum; and in no single case had there been any knowledge of swallowing a pin. Pins lodge more often in the appendix of males than females. Many are seen in children under ten years of age; others in adults in various occupations and conditions of life. Generally foreign bodies, such as pins and other sharp, slender bodies lead to rapid perforation and abscess formation, etc., but not always, and any type of appendicitis may result with symptoms lasting for months or years. A pin usually enters the appendix straight by its head or point, lying with its long axis parallel to that of the appendix, and perforation usually occurs with its point; but exceptionally it lays

directly across the lumen and perforates the walls with its point and head. McBurney removed an appendix containing two pins perforating the opposite walls of the appendix. In two cases pins have been found in appendicitis within hernial sacs. A pin or other body may be rusted, corroded, or free from deposit; but usually it is the nucleus of a fecal concretion which covers it but leaves the sharp portion free. In seven out of twenty-eight cases, there was abscess of the liver.

The writer reports, in addition, a case of appendicitis in which he found two foreign bodies—two beans—which produced perforations and multiple abscess formation. Operations were performed with recovery.

A patient, A. B., was a man past middle life. In November, 1899, he was troubled with pains and cramps in the abdomen, pain in the right lumbar region and indigestion, for which he was dieted with relief for a time. On February 14, 1900, while at lunch, he was taken with severe pains in the center of the abdomen. He took blackberry brandy, ginger, etc., which relieved him somewhat. On February 15th the pains returned and, in addition, severe right lumbar pain, which confined him to bed. The following morning his physician was called and his case was pronounced one of acute gastritis following la grippe. After three weeks he was discharged as cured. Upon recovery he enjoyed good health and gained about ten pounds in weight. Early in November, 1900, he became troubled with bladder symptoms, pains and frequent urination, for which medicines were taken without success. About this time the patient ate frequently enchiladas—a Mexican dish containing beans. On February 9th, 1901, he was taken ill with severe pains in the abdomen. Hot applications relieved him for a while. On February 11th his physician was called, who, after examining him, pronounced him ill with appendicitis, and ordered applications of hot flax-seed poultices. He had pain all over the abdomen for three days, more severe pain on the left side. On the 13th he began to have pains in the right side, which later became more severe than on the left, bowels constipated and some vomiting. On this date a consultation was held and operation was advised. The patient would not submit and the poultices were continued. His temperature during this time ranged from 99 to 102.

I saw the patient, with Drs. Mark Neumann and Bell, February 23rd. We made an examination under anæsthesia, and at the patient's home, on February 25th, I performed an operation, assisted by Dr. Mark Neumann. Ether and chloroform were administered in separate bottles by the drop method; in the main, ether being given.

An incision, an inch long, was made two inches from the spine and about parallel with Poupart's ligament. The structures of the abdominal

wall were divided in the direction of their fibres and the peritoneum opened. After exploration, I found it necessary to enlarge the incision slightly and it now measured $1\frac{3}{4}$ inches. The upper end of the incision extended about a half inch above a line drawn from the anterior spine to the umbilicus.

I progressed mostly by the sense of touch, using blunt dissection with the index finger, and worked along the iliac fossa between it and the cæcum, separating adhesions until I came upon an abscess, which was freely opened and flushed with hot water. From this abscess cavity the two beans were removed; the larger measured $13/16$ of an inch long and half an inch wide; the other $9/16$ of an inch long, $5/16$ of an inch wide. The beans were carefully examined by every one present, split open and found to be perfect, their capsules being intact and apparently not affected by either the passage along the digestive track, their stay in the appendix, or the abscess cavity.

Through a common opening an abscess passing up towards the kidneys and one down in the pelvis were opened and washed out. Adhesions were freed on all sides. The appendix was separated by blunt dissection from adhesions and its mesentery.

A large mass of inflamed, thickened omentum covered with pus was brought to the surface. The pus was sponged and washed away. The appendix was inflamed, suppurating, partly gangrenous, and perforated in two places, the cæcum was also inflamed and sloughy. All intestines in sight were inflamed. All inflamed omentum was removed, the excision being performed well in normal tissues, no mass ligatures were used, the vessels only being ligated with fine catgut and then the omentum was cut off external to the tied vessels.

During the removal of the appendix, it was so soft and friable that it tore completely across, and it was consequently removed in pieces. It was excised close up the cæcum by blunt dissection. The cæcum was deeply located and could not be brought to the surface without irreparable damage. I tried to close the opening in the cæcum by inserting several through and through continuous catgut sutures, but most of them did not hold, as the layers forming the cæcal wall were very soft. As the cæcum was deeply located and the stitches did not hold, I used borated gauze packing to bring the edges together and close the opening. All pathologic and exposed intestines were freely irrigated with hot water as hot as the hand could bear, all visible pus, shreds, plastic fibrin, exudate, etc., on the surface of the bowels, etc., were removed with the fingers, gauze pads and hot water irrigation. The infected portions of the abdominal cavity, intestines, etc., were dried and again thoroughly flushed

with hot water till the fluid came away clear, re-dried with sponges and the intestines returned to the abdomen as near as possible to their normal positions.

The peritonitis was of that character wherein nature had the opportunity of throwing out considerable protective adhesions.

The inflamed sloughy surface of the cæcum, the edges of the opening in the cæcum, adjacent peritoneum, and the abscess cavities were lightly dusted with aristol. A strip of borated gauze two inches wide and a yard long was carried to the bottom of each of the abscess cavities, the surfaces lightly packed, and the ends brought as near as possible in direct lines to the surface through the abdominal incision.

The surface of the cæcum was lightly covered with borated gauze, and the balance of the wound also lightly packed with more gauze strips, and borated gauze dressings, cotton, adhesive strips and binder applied, the patient being put to bed in good condition. The recovery was satisfactory; the intestinal contents were discharged several times through the incision during the first week, but the wound and abdominal wall including the skin, was solidly and durably healed by the latter part of March, 1901. His general health is good. He feels well and looks well, is working at his occupation every day, appetite and digestion good; bowels fairly regular; abdominal walls solid; there is no evidence of hernia and he does not wear an abdominal support or truss.

NEW SURGICAL POINTS.

In an article on "Appendicitis", a report of fifty-four consecutive operative cases; when to operate, points in technique which I published in the American Medico-Surgical Bulletin June 13th, 1896, I reviewed the several methods of treatment of appendicitis and from a study of the cases cited and comparison of the methods used by various physicians and surgeons, I then came to the following conclusions:

1. That appendicitis is strictly a surgical disease.
2. That the infected appendix should be removed as soon as the diagnosis is made.
3. That in many cases of appendicitis an inch-and-half incision is sufficient for operative treatment.
4. That if there is local or general infection the abscess cavities should be freely washed out with hot saline solution.
5. That if drainage is necessitated, one or two capillary wicks should be used instead of iodoform or other gauze packing glass or other stiff tube.
6. That to prevent hernia the incision should be small and if drainage is necessitated a small wick should be used, and the wound should be closed,

layer by layer, separately and accurately, with sterilized chromicized tendon or chromicized catgut sutures."

Of the above fifty-four consecutive operative cases of appendicitis in which I performed or assisted in operating upon while House Surgeon at the New York Post graduate Hospital during 1893 and 1894, and since I left that institution up to April 1896, there were two deaths. These two fatal cases I assisted in operating upon while I was in the Post Graduate Hospital. Since April, 1896, I have operated upon sixteen additional cases of appendicitis and so far all my operations for appendicitis have been without mortality.

In the article in the Bulletin I also described what I considered the best method of excising the appendix. Briefly this method is as follows:

The mesentery of the appendix is separated by dissection down to the cæcum, bleeding vessels or vessels being ligated with fine catgut, "the appendix is held up by the tip and after dividing in a circle the peritoneal and muscular coat of the appendix about one-quarter of an inch from the appendico-cæcal junction, leaving the lymphoid and muscular coats uncut, dissect back to the cæcum, with handle of the scalpel, the divided serous and muscular coats of the appendix. Next apply a narrow-bladed forceps transversely to the mucous cylinder close to the cæcum to temporarily close the opening at the appendico-cæcal junction, then cut off the appendix close to the forceps, leaving only a small cuff of mucous membrane projecting beyond the outer edge of the forceps. Cleanse the cuff with a gauze pad wrung out of 1-2000 bichloride solution, then suture the cut edges of the mucous membrane and lymphoid coats very closely and accurately together with fine silk on a fine needle. Disinfect united edges and line of suture, remove forceps and suture accurately the peritoneal and muscular coats which have been dissected back to cæcum. If the coats of the appendix are matted together, apply the narrow-bladed forceps transversely to all coats at the appendico-cæcal junction. Next cut off appendix close to forceps, leaving only a small cuff of the divided coats projecting beyond the outer edge of forceps. Disinfect protruding mucous membrane, etc., and suture cut edges closely together with fine silk on fine needle, disinfect line of suture, remove forceps and bury this line of sutures with a layer of serous sutures.

The method above described can be quickly done. In both only sufficient mucous membrane and other coats of the appendix are used to close accurately the opening in the cæcum at the appendico cæcal junction, without leaving any tension on the line of sutures, and after suturing is finished there remains simply a line of sutures on cæcal wall at the former location of appendix. If the appendix is gangrenous, and the

softening process has extended even to the cæcum, have an assistant pinch up the adjacent portion of cæcum with a dry piece of gauze to prevent extravasation, then remove the appendix and irreparably softened cæcum and infolded edges of cæcal wall, suturing the layers accurately together with fine sutures. This line of sutures is then buried with one or more layers of Lembert sutures.

These are the methods I use when sutures can be inserted, with the exception that I use fine chromicized catgut for sutures instead of silk. In those cases wherein sutures do not hold the edges can be approximated by borated gauze packing which assists in union. The writer has found this latter method to be followed by satisfactory results.

By performing early operations and by using short incisions instead of long ones the mortality has been much lowered, less time is taken for the operation, less injury is done, the wound being small, can be closed in less time and with few manipulations, healing taking place rapidly, without trouble, allows patient to get back to his work soon, and on account of the shortness of the wound there is little or no danger of a post operative hernia, even if the wound were left open, as is sometimes done in suppurative cases.

The writer has been able to remove an infected appendix in an adult successfully through less than an inch incision, and in cases of acute appendicitis, with diffuse peritonitis without adhesions, has through about a two and one-half inch incision, excised the appendix, withdrawn all infected intestines, etc., to the surface, removed all septic matter, shreds, etc., from the peritoneal cavity and the surface of the bowels, then, after irrigation and sponging, returned the intestines, used drainage, had good recovery, and no hernia post operative.

In all cases the appendix should be removed if this can be possibly done without endangering the life of the patient. If after a careful search for the appendix one is unable to locate it within the peritoneum by making an incision through the posterior layer of the peritoneum external to the cæcum it may be detected behind the peritoneum whence it can be readily removed. At times during operations one finds the appendix reduced to nearly a fibrous cord, and buried in extensive adhesions; such a fibrous cord being located in the normal position of the appendix should not be overlooked by the operator but should be excised close up to the cæcum after the method described by the writer. Sometimes at an interval operation, on account of extensive and firm adhesions, and the deep location of the cæcum and adjoining coils of intestines, it is impossible to find the appendix unless irreparable damage is done in searching for it. In such a case the wound should be closed and an operation perform-

ed later on if appendicitis again develops, and at the second operation the appendix, being inflamed, can be readily located and excised.

When adhesions are present they should always be freely separated as far as possible as the results subsequent to operations in many cases depend upon the restoration of the normal intestinal movements.

When a local or general infection of the peritoneum is present an abscess cavity or cavities should be freely opened, adhesions, when present, be broken up, all pus shreds, etc. cleaned out, all inflamed or thickened omentum excised, the appendix removed, the abdominal cavity further examined to be sure that no purulent mass has been overlooked. All pathological intestines, until normal bowels are seen and freely handled, should be withdrawn from the abdominal cavity to the surface and covered with hot towels. The infected portions of abdominal cavity and exposed intestines, etc. should be freely irrigated with hot water or hot saline solution, as hot as the hands can stand, and all pus, shreds, etc. removed with irrigation, sponges and the fingers until all pathological materials are removed and until the fluid used as irrigation comes away clear. The intestines are then dried and returned within the abdomen to as near as possible their normal positions.

This method of treatment should always be used in infected cases and the operation thus performed has been found by the writer to be uniformly successful; whereas, if simply an incision had been made, pus evacuation and sponging and ordinary irrigation done, the result would have been in all probability just the opposite.

After these extensive operations on septic cases the wounds should be closed as far as possible by sutures, and the cavities or spaces of infection drained with two or more borated gauze wicks or strips which are carried to the bottom of the infections, the ends being brought out as far as possible in a direct line to the abdominal surface.

In order to obtain the full benefit of capillary drainage, the ends of the strips must be placed in contact with absorbent gauze on the surface outside of the wound, and this gauze must be changed and fresh gauze replaced when it becomes saturated to the point of decreased power, as otherwise it will have little mechanical effect. Adhesions wall off the wick or other drainage apparatus in the peritoneal cavity in about thirty hours, when the gauze or wick is shortened or entirely withdrawn according to the indications presenting. The writer, as a rule, does not withdraw it entirely until the fifth day. The object in proceeding thus is to allow the intestine to come together as rapidly as consistent with safety, and thus obliterate the cavity formed by the wick or strip. After this, if further drainage is necessary, carry a narrow strip of gutta-percha tissue

or gauze into the wound. A wick or gauze strip long enough to rest on the posterior abdominal wall adjusts itself nicely, is soft, causes no shock, and is easily removed. After its removal completely from the wound, drop in several minims of sterilized balsam of Peru, which facilitates healing and prevents sinus formation. A fecal fistula will not form from the use of a wick or strip, nor will adhesions follow its use, but some may if large gauze packing, tubes, etc., are used for drainage. The writer prefers the wick or gauze strips to other methods of drainage. Gutta percha tissue around the rolled gauze has several advantages over plain gauze strips, etc., that is, convalescence is more rapid, less painful, fewer disagreeable local symptoms, while the rubber covering prevents adhesions between the gauze and s-rosa.

The length of time the patient is confined to bed when drainage is used is not much increased except in those cases wherein fecal fistulæ form. The duration of confinement, after an operation in which drainage is required, is lengthened only the time it takes for the cavity to obliterate up to the skin surface and the latter to become firmly and durably cicatrized. The writer insists that patients in whom drainage is used should remain in bed for about one week after the wound has firmly healed. This is done in order to obtain a very solid cicatrix, and thus lessen the chances of hernia. If a single wick or gauze strip has been used as a drain and the balance of the wound has been sutured accurately in separate layers, such a small opening is left after its removal that the layers fall fairly close together and unite about as well as if they had been sutured. Hernia, under most circumstances, does not develop after the use of such a drainage method.

From a study of the pathology, etc., of appendicitis, the writer draws the following additional conclusions to those he has already published:

1. That, as appendicitis is strictly a surgical disease, the earlier it is operated upon the better for the patient.
2. That cases operated upon early should have no mortality.
3. That during all appendicitis operations the appendix should be removed, provided irreparable damage is not done in attempting to find or remove it.
4. That where there is a local or general infection the abscess cavity of cavities should be freely opened, all adhesions separated, all pus, shreds, etc., cleaned out, all inflamed or pathologic omentum excised, and all pathologic and infected portions of abdomen be freely irrigated with hot water or hot saline solution and then dried with sponges.
5. That fecal concretions are more apt to be present as exciting causes of appendicitis than foreign bodies.

6. That foreign bodies are sometimes present in the appendix, and are exciting causes of appendicitis.

7. That when the appendix contains foreign material, it is more likely to be a pointed or heavy body.

8. That faecal concretions closely resemble some foreign bodies of light weight, *e.g.*, grape seeds, cherry stones, etc., and that, when one is in doubt whether the material is a concretion or foreign body, it should be carefully examined microscopically and chemically to determine the exact characters.

9. That operations such as appendicitis or somewhat similar operations, *e. g.* those involving laparotomy, can be as readily, quickly, safely and cheaply performed at the patient's home as elsewhere.

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BIBLIOGRAPHY.

ROBT. T. MORRIS—Lectures on appendicitis. Published by Putman's Sons.

JAMES F. MITCHELL—Foreign bodies in the veriform appendix. John Hopkins—Hosp. Bull.; Jan., Feb., March, 1899.

C. B. LOCKWOOD—Pathology and treatment of appendicitis. Lancet Jan. 27, 1900.

J. C. STINSON—Appendicitis—a report of fifty-four consecutive cases, when to operate, points in technique, American Medical and Surgical Bulletin, June 13, 1896.

J. C. STINSON—Nephrorrhaphy and stripping of the appendix through a lumbar incision for right floating kidney and painful appendix, N. Y. Medical Record, Sept. 23, 1899.

J. C. STINSON—Amer. Gyn. and Obst. Journal, Oct. 7, 1899.

J. C. STINSON—Diffuse peritonitis from acute appendicitis in a girl aged 13 years, operation, recovery. Boston Med. and Surgical Journal Feb. 15, 1900.

J. C. STINSON—Operative treatment of inguinal hernia; preferable operation. N. Y. Med. Record, March 7, 1896.

J. C. STINSON—The Transactions of the Medical Society of the State of California, April, 1900. Pages 322, 323.

J. C. STINSON—Special preparations of patients, surgeon, instruments, sutures, etc., and points of technique of operations for hernia. Boston Med. and Surgical Journal Dec. 7, 1899.

C. MCBURNEY—Treatment of appendicitis. Dennis' system of surgery.

THE PRESENT EPIDEMIC OF SMALLPOX IN AMERICA.*

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SOME time ago I was asked by your president to prepare a history of the present smallpox epidemic in Minnesota for this meeting. I promised to do so, not because I thought you would be interested in such, as a local condition, but because the history of this epidemic is in all probability the history of each and every epidemic in province or state of Canada or the United States during the past five years.

In March, 1899, a porter from a Great Northern Railway train was found ill with smallpox in St. Paul, after his return from the Pacific coast. His infection occurred at some point between St. Paul and the coast, probably at Seattle. At the time his case was diagnosticated as smallpox, he remarked: "If such is the case, there is plenty more of the same thing in the place that I came from."

From exposures to this case, there followed thirty-one cases of smallpox in St. Paul, with but one death. The outbreak was well handled by the very efficient health commissioner of that city, Dr. J. Ohage. I did not see any of these cases.

In May, 1899, a gentleman, aged about fifty years, returned from California to his home at Worthington, Minnesota. On his way home he stopped in Nebraska for a few days. There was quite a little smallpox in that state at certain points during the winter of 1898 and 1899. This gentleman had, after his return to Worthington, an eruption so mild in type that no physician was called, I understand. I believe some parties thought he had chicken-pox. In due time the wife was taken ill. At first her disease was thought to be measles, but in a few days it was recognized as smallpox of severe type. After but a few days' illness, she died.

The physician called to attend this lady, after her disease was recognised as smallpox, went into voluntary quarantine with this infected family, for the good of the community. He was not immune to the disease and in consequence became infected and died.

In all there were at this place eight cases of smallpox from this infection, with two deaths. The disease occurred in varying degrees in these cases, from the very mild type in the father and grandmother to the confluent form in the mother and attending physician.

Late in June, 1899, I was called to East Grand Forks to give an opinion as to the nature of the disease from which a man was suffering.

* Read before the Canadian Medical Association at Winnipeg, Aug., 1901, and published also in the *St. Paul Medical Journal*.

My diagnosis was smallpox. The man was quite ill, though not dangerously so, and in about the fourth or fifth day of the eruption. I was then asked by a physician to see a boy in Grand Forks ill with an eruptive disease. I again made the diagnosis of smallpox. The eruption in this case was remarkably confluent and the patient dangerously ill. When my diagnosis was given out, certain physicians of prominence disputed its correctness. I stated that if two of them, excellent men, would visit the boy in their own city (Grand Forks) and would still say that the disease was not smallpox, I would hold my opinion in abeyance and watch developments. They visited the case and still gave their opinion that it was not smallpox. I thereupon repeated my opinion that this boy had smallpox and that he would soon die, and stated that I would be interested to know the cause of death that would be given on the death certificate. I further stated that the Fast Grand Forks case should be quarantined as for smallpox. The Grand Forks patient died in less than thirty-six hours from the time the last negative diagnosis was made by the two resident physicians referred to. Before his death, however, the health officer of the city and the superintendent of the state board of health, both of whom were absent at the time of my visit to Grand Forks, returned to their homes; both pronounced the case as one of smallpox. From this time on, the disease in both Grand Forks and East Grand Forks was without dispute recognized as smallpox and the little epidemic was quickly suppressed. The perplexing elements in this epidemic were, first, the fact that an eruptive disease of very mild type had appeared first among the telephone operators. It was thought that these mild cases were in all probability of the same type as these severe cases, which certainly had all the ear marks of smallpox, and it was hard to believe that they could possibly have been smallpox. The history given by these recovered patients was very vague. Second, the boy in Grand Forks who died of smallpox gave a history of possible exposure to poisons that might have caused an eruption quite similar to that shown at the time of our visit. After careful study of all these cases there was, however, but one conclusion that could be accepted, viz., that all had one and the same disease, smallpox, varying greatly in type and severity.

August 31st, 1899, a health officer in Southern Minnesota wrote me that two young men, proprietors of a grocery store, had an eruptive disease which he diagnosticated chicken-pox. I replied at once, drawing his attention to the rarity of chicken-pox in adults, and advising him to quarantine the cases. My advice was not heeded. September 27th I was called by a physician to this same place to see a suspicious case. A boy had consulted him with an ulcerated cornea. The physician noticed some

bluish marks upon the face of this patient. Further examination showed similar marks upon other parts of the body. The corneal ulcer was recognized as the remnant of a smallpox vesicle. Investigation showed that there had been a number of cases of smallpox in this little city, the first one occurring early in July and being that of a young man from Grand Forks, who was home on a visit to his mother. The disease had remained isolated until the two young grocery men contracted it and carried it to their store to distribute with their goods to the entire community. At the time of this visit I found two very typical cases of smallpox, one being a man who had been under treatment in hospital for a compound fracture of the leg and had there contracted smallpox (the same source of infection as that for the boy with the corneal ulcer). He was at about the seventh day of the eruption ; the other a young lady in the second day of eruption. In this latter case the eruption was quite extensive, and being governed by previous experience with smallpox, I predicted for her that she would undoubtedly be very sick during the progress of her disease. In this I was wrong. It could hardly be said that she had a sick day after that upon which I visited her. The temperature quickly fell to normal. The patient was decidedly marked with pigmented spots after her recovery from the disease. I have not seen her for nearly two years, but I venture to state that, judging from my knowledge of other cases, she in all probability shows little marking from the disease at this time. The prediction I made as to the seriousness of this case was unfortunate, for the unbelievers in my diagnosis of smallpox used this as an argument against my ability to recognize this disease when present.

Much opposition to quarantine regulations, and in fact, to the diagnosis of smallpox, existed in this place. In consequence, the disease was not brought under control as it should have been. It continued in the city for a period of nearly a year : it spread from this place far and wide through Southern Minnesota and Northern Iowa. In the city itself there was a total of one hundred and one (101) recorded cases from this exposure, without a single death. There were, however, four deaths at other places traceable to infection at this point. This was my first, but not my last experience with epidemic smallpox, with a phenomenally low mortality.

In August, of 1899, a physician and health officer wrote me that his little girl was quite ill with vaccinia. He described in his letter the eruption upon her person. I replied to him at once, urging him to be on his guard ; stating that in all probability his child had been exposed to smallpox before she was vaccinated and was suffering from this latter

disease, rather than from vaccinia. He paid no attention to my warning. A few days later at the request of a physician in a neighboring village, I visited with him this child and found her very ill with confluent small pox, so, ill, in fact, that she died within a few hours of our first seeing her. Her father still insisted that she did not have smallpox. There had been much exposure to this child. As a result, in this little village there were in all twelve cases, with four deaths. Close inquiry brought out the fact that the father of this child was taken ill July 4th with symptoms that were undoubtedly prodromata of smallpox, and that following these symptoms, he had an eruption, the nature of which he failed to recognize. He undoubtedly had smallpox and infected his child.

In October, 1899, a young woman from Carver County visited a sister who was a servant at the B——Hotel, in Minneapolis. At the time she was just recovering from a rash which she stated was due to chicken-pox. She also stated that the whole family had had the same disease. Later developments proved that in all probability to have been smallpox. Where it came from I not been able to determine by correspondence, nor have I had time to visit the place myself in order to trace its origin, if possible. After the return of this young woman to her home, her sister (the servant) went home, and also had what was called chicken-pox. A few days later another servant in the same hotel was found to be ill with an eruptive disease which was diagnosed as smallpox by Dr. Norred, and sent to the Minneapolis pest-house November, 1st.

A clerk of one of the leading dry goods houses had a meal ticket at the B——Hotel, where the girl who was sent to the pest-house November 1st was a waitress. In due time this young man had a rash which was not diagnosed. Others in the same store had this same disease, and as the Thirteenth Regiment returned from the Philippines about this time it was given the name of "Philippino Itch." From these parties there is quite an infection which was later recognized as smallpox, and the poetry of Philippino infection was removed, for it came from no more distant place than the B——Hotel through the waitress. A man living at 15 —— Ave., and boarding at the B——Hotel, had what was called chicken-pox. He passed the disease from one to another at his place of rooming until finally one infected young man went to Janesville, Minn., where he had smallpox. Inquiry there elicited the fact that a case of smallpox had first been recognized in this house on W—— Ave., by the husband of the patient. A physician confirmed this diagnosis, and reported the fact to the health office. The commis-

sioner of health is said to have visited this place, and to have pronounced the disease nothing but chicken-pox. Smallpox under the name of chicken-pox made various excursions from 15 W—— Ave. Among the places visited were Whapeton, N.D., and Hoff township, Pope county, Minn. In this latter place there was one death from hemorrhagic smallpox. Although several diagnosis of smallpox had been made by competent physicians in Minneapolis, to be marked chicken-pox by the then commissioner of health, it was not until January 23 1900, that the city was forced to recognize the presence of smallpox. To November 1, 1900, there were in Minneapolis 448 cases with 13 deaths. There were known to be 53 localities in 23 counties with a record of 534 cases with 5 deaths, or a total of 991 cases with 18 deaths, due to Minneapolis infection.

But why relate other outbreaks? These are enough for illustrative purposes. The disease has continued in Minnesota up to the present time with the common epidemic history of first mild unrecognized cases, with later severe cases, easily recognized, and with disputings among physicians, even after the disease had assumed such a marked type that the medical tyro should have recognized it, had he reasoned from the positive rather than the negative standpoint.

Dr. Geo. D. Haggard, who has had opportunity to watch many smallpox cases in Minneapolis, has given such an excellent description of the symptoms of smallpox as it is now prevailing that I simply quote him as follows:

"Of the early symptoms, fever, the one most constantly present, may be overlooked entirely in children, or recognized only as fretfulness. It may also happen in the mild cases that the fever will accompany, but not precede, the eruption in children. In the severer forms of the disease, fever is almost always, if not always present. If the case is malignant the temperature may be sub-normal for days at a time, especially after the eruption has appeared. In some severe cases the temperature fall may be momentary only, the fever being practically continuous throughout the course of the disease.

"Chills are very inconstant. They may be the first prodromal symptoms; they may be alternating in close succession. They have been absent or unrecognized in a large proportion of cases.

"Pain in the lumbar region is quite constant as an early symptom in the severe cases, and is fairly constant in the medium grades of the disease. In the mild cases headache is a prominent early symptom. Associated with the early headache may be general pains. The first pains may be in the feet and legs. There are sometimes fleeting pains appearing in the head, the back, the legs and then in the abdomen. In the

severe cases the pain in the back continues after the eruption appears. Sore throat is a common symptom in all the types of smallpox described. It may be the earliest symptom ; it may appear with the eruption or even later, then disappear promptly, or develop into a most annoying condition. There may be only a diffused redness, or the eruption may cover the entire pharyngeal surface. The throat has sometimes an apparently diphtheritic gangrenous slough on the tonsils, severe adenitis. with pain and dysphagia. There may be aphonia, or the hoarse whisper of 'croup' and choking that alarms the attendants. The breathing, for days, may be like that of a severe diphtheria, in which the nose is stopped and the fauces closed at the end of each inspiration and expiration. The peculiar odor which is said to attend smallpox is noted only in cases of some severity. It is of such a character and appears so early in the disease as to be of material benefit in making a diagnosis. This early odor is unlike that which comes later, the odor of suppuration.

"In some cases there is severe sweating at about the fifth to the seventh day of the disease, and this is accompanied by a great stench, irrespective of the extent of the eruption.

"The tongue, quite constantly, has a fine, white coating, with the shape and pallor so common in atonic diseases. In the severe cases it often has the appearance of the so-called typhoid fever tongue. In the milder cases the tongue may have no vesicles upon it, or only a few, as in chicken-pox ; but in the severe cases it may be thickly covered with eruption. Loss of appetite is a common early symptom, and may be somewhat prolonged in the severe cases. Nausea or vomiting, or both, are common early symptoms, and these two may continue to be present for some time in the severe cases.

"Weakness is often extreme when the duration of illness is taken into account. Diarrhœa is a somewhat common symptom in all forms of the disease, but is most marked in the severer forms. Constipation is sometimes present, possibly in twenty per cent. of the cases.

"Sleeplessness is present in probably half the cases, lasting but a few days in the mild type, but quite persistent in those more seriously ill. In these latter the use of the milder hypnotics seems to have but little effect.

"Convulsions occur in children in the early stages of the disease. Delirium is often present and is most frequent in the early or febrile period. Tremor of the hands is a common symptom, occurring after the fifth day, slight in the mild, but in aggravated form in the severe cases.

"With so many grades of severity, and with the varying reaction of the skin, a great range in the degree of the eruption is not strange. This

creates much confusion and discomfiture in the minds of physicians who have had little experience with the disease. It is not uncommon to find a diagnosis of grippe, typhoid fever, measles, scarlet fever or even erysipelas, made before the correct diagnosis is reached. In several cases of purpuric variola the disease has been classed as purpura hemorrhagica, or 'black measles,' or 'heart failure,' or 'gastric catarrh.'

"It is necessary to be guided in making a negative diagnosis when smallpox is prevailing in mild form. The patient and his friends are generally certain that the mild cases cannot be smallpox. The patient is said to have been 'working too hard,' or to have 'cooled off too soon,' or to have 'ridden too far on a wheel,' or to have 'had such attacks before.' He is subject to 'lumbago.' The eruption is 'due to the heat,' to 'medicine taken,' or to 'bad blood.' If the physician sees the patient but once he is apt to make a diagnosis of grippe, rheumatism, typhoid fever, or cold. If he makes later visits he is very likely to find an eruption that does not belong to any of these diseases, and which is certainly not chicken-pox.

"One must not adhere too closely to the classical description of smallpox eruption, for he may be misled. In the mild cases there may be only a few broad and flat papules of irregular outline and uneven size. These reach the stage of involution so early that the case is out of quarantine in half the usual time. For example: A child aged five years was vaccinated a few days after exposure to his father, who was ill with smallpox. Thirteen days after such exposure there were marked prodromal symptoms of smallpox. Later four papules appeared upon the child's neck, and these increased in prominence for two days, then decreased for a like period of time, and disappeared without vesiculation.

"In other cases, after the severe prodromal symptoms, an eruption, thick set and hemorrhagic, may appear. There may be marked prostration and delirium. By the fourth or fifth day of the eruption all symptoms may change for the better, and the patient's case progress as a typical varioloid.

"There were mild cases without previous vaccination, and hence mild in character independently of any influence from vaccination. There were still other cases with a mixed eruption. Thus M. and E., sister and brother, aged respectively eleven years and ten months, were ill. The histories of these two cases were practically the same. There was fretfulness, fever, malaise, sore throat, headache on the third day, a macular eruption of irregular size, and most marked on the head, hands and feet. From the centre of many of these maculæ developed, within twelve to twenty hours, a small, dome-shaped, transparent vesicle, with thin top

which would break within the next twenty-four hours, leaving the usual flat, dry, dark scab, of irregular size, so characteristic of chicken-pox. But accompanying these typical prodromal symptoms of smallpox, with the rash of chicken-pox, was another eruption of papules going on to vesiculation slowly, as in smallpox, full and tense at the end of a week; mostly round, but occasionally oval; refilling quickly when emptied. These had thick tops and hyperplastic base. There was an elevated ring left when the usual smallpox scale dropped off.

"The following complications were met with in one or more cases: Brachial paresis preceded by a neuritis; severe inflammation of the eyes, lasting from seven to ten days; suppurative otitis media; impetigo following the desquamation; facial erysipelas following the secondary fever in one case; burrowing abscesses over back, sacrum and buttocks. There were small wounds of the skin, which showed no disposition to heal so long as the eruption was active. In one case the nails dropped off, and this was in process when death occurred in another case. In one case there were bed sores. Many of the severe cases had a crop of pimples following the desquamation. Inflammation of the glands of the neck, of the groin or of the axillæ was noted in many of the cases. Accompanying this was chills, irregular temperature, and local pain. There was a marked variation in the size of these glandular and periglandular swellings, which advanced and receded from day to day. The skin was not brawny over these glands as is usual in such inflammations. The softness and mobility of the glands was striking. Upon the rapid recession in size of the glands, without rupture, the skin would lay in folds where it had previously been tense. The disorders of the alimentary canal were mostly following the secondary fever, and were represented by gastro-duodenitis, accompanied by jaundice or by gastro-enteritis."

Up to August 12th, 1901, there have been recorded since January 1st, 1899, nine thousand, four hundred and ninety-seven (9,497) cases of smallpox in Minnesota, with sixty-seven (67) recorded deaths. Of these, six thousand two hundred and eighty-eight (6,288) cases and twenty-nine (29) deaths have been recorded since January 1st 1901.

It may be well for us to consider whence came this disease and why does it differ so from the classical history of smallpox epidemics.

It is impossible to locate positively the source of this wide-spread epidemic. By some it is said to have originated in Cuba. Certain it is that small-pox of the present mild type was in Florida, Alabama and Tennessee early in 1897. In all probability it spread from the Southern to the Western States, for there was smallpox of this mild form in Texas, in Nebraska, probably in the State of Washington, in Montana and other

Western States prior to January 1st, 1899. The first known case of this present epidemic coming to Minnesota was that of the colored porter on the Great Northern Railway.

Prior to October 1st, 1899, at least two cases (St. Cloud and Willmar) came to Minnesota from Montana, and the disease was quite general in North Dakota before it became general in Minnesota. The case that was found in full bloom at the Willmar railway station September 16th, 1899, received his infection in a hospital at Great Falls, Montana. It had not been recognized by the attending physician as smallpox. The patient was allowed to leave Great Falls when fully and extensively broken out and was advised by the attending physician (so it was stated) to keep out of the way of physicians while on his trip, for the eruption resembled smallpox and there was a possibility that he might be removed from the train and placed in a "pest house" before he should reach his intended destination (precisely the thing that was done). In reply to an inquiry sent from Minnesota to Great Falls, Montana, relative to this disease, which we called smallpox, a very capable physician stated that an eruptive disease was prevailing at that point, over which the physicians were disputing. His own cases he was quarantining as smallpox without making a positive diagnosis. Other physicians, however, were said to be treating cases in the general hospital. He further stated "if this is small pox, then all of Northern Montana is infected. It may be that the disease is modified in some way by the climate in this section." (Later developments point to the fact that this was undoubtedly small pox of the type so common over the entire country since that date, and some cause other than climate must be sought to account for its mildness.) Shortly after this letter was written, several deaths from smallpox occurred in and near Great Falls.

In January, 1900, smallpox was introduced into Duluth from Texas.

It is thus seen that into that into the one state of Minnesota, small pox of a mild type was introduced from three distinct points, Nebraska, the line of the Great Northern Railway and Texas, within a period of one year, and it is quite probable that all three of these sources received their original infection from a common source, probably the Southern states, Florida or Alabama.

It should be noted that as early as 1895, there was a local outbreak, embracing twenty five cases of smallpox at Midway (a section of St. Paul), with but one death. The infection for this outbreak is said to have come from Green Bay, Wis. How the disease reached that point I do not know.

It is common to hear from people who have not given the subject much study the statement that the disease was brought home by the

soldiers returning from the Philippines and from Cuba. This is not the fact. The disease was widely epidemic in the Southern and Central states before a single soldier had been sent to either of these places. It was epidemic in many of the North-western states before a single soldier had returned from the Philippines. It is quite probable that the disease was imported from Cuba by Cuban refugees before hostilities had broken out between the United States and Spain.

It is amusing, although at the same time annoying, to note the names that have been substituted for this old-fashioned, well described disease, smallpox. Among these are such pleasing suggestions as Cuban itch, Manila itch, Philipino itch, yaws, pseudo smallpox, modified smallpox, etc., *ad nauseam*. With much reading I have failed to find any disease described under these first three attractive names. "Yaws" is the name of a disease that should no more readily be confused with smallpox than should syphilis. It is a disease not at all common in the United States and probably never seen by many of those who are using the term. To call it pseudo smallpox is a dangerous practice, for it conveys the idea, as is meant to by those who use the term, that the disease is not smallpox. The term "modified smallpox," may with propriety be used, so long as it is understood that by this is meant smallpox in a modified form.

When we try to explain the reason for the present mild form of smallpox, we find before us a difficult task. We know that with all communicable diseases there are epidemics in which the severity of the disease differs greatly. There may be epidemics of typhoid fever in which the number of walking cases represent a large proportion of the whole, or on the other hand, in which the mortality is very great. There may be epidemics of scarlet fever of so mild a type as to almost pass without notice, or on the other hand, in which a very large percentage of the cases may die. The same may be true of measles. Why should it not also be true of smallpox? But there may be another reason for the mildness of the disease. Dr. J. Nevins Hyde, in an article written December, 1899, says: "The mildness of the present epidemic of smallpox can be accounted for rationally only on the basis of the very general practice during the last fifty years of vaccination of our people. Instead of being astounded at the result, we should greet it with a degree of satisfaction. It is the fruit of a century of progress." I must admit that this argument is a very plausible one. It certainly has been demonstrated time and time again during the present epidemic that vaccination does protect, and while there are many individuals at the present time who never been vaccinated, and yet do not have smallpox after an apparent

exposure, these have great reason to be thankful for the protection conferred upon them by their ancestors.

Prior to 1798, smallpox was regarded as the king of diseases. It is said to have been the cause of one-tenth of all the deaths amongst human beings while in addition to this, "many who outlived its ravages were disfigured, blind or invalid for the rest of their lives."

Macaulay says: "Smallpox was always present, filling the church yards with corpses, leaving on those whose lives it spared the hideous trace of its power, turning the babe into a changeling at which the mother shuddered, and making the eyes and cheeks of betrothed maiden objects of horror to her lover." He further called smallpox "the most terrible of all ministers of death."

Alexander McKenzie describes it in an unprotected community as "a fire consuming the dry grass in the field."

Europe, in the century preceding the discovery of vaccination, lost in deaths from smallpox alone fifty million of her population, or an average of five hundred thousand per annum. The mortality from smallpox at the present time in all civilized countries is nothing compared with these pre-vaccination times. The mortality from smallpox in well vaccinated countries is practically nil. To whom belongs the credit for this changed condition? To the immortal Jenner. And yet there are those who malign vaccination and the father of vaccination; anti-vaccinationists, they are called. Shame upon them! How many of these erratics would wish to return to the pre-Jennerian era?

While it is absolutely proven that vaccination protects in the large majority of cases of smallpox, while it is altogether probable that at least in part the mildness of the present epidemic of smallpox must be due to an acquired immunity, transmitted by our well vaccinated ancestors, it must be admitted that such transmitted immunity is not complete protection. In many instances that have come under my observation during the past two years, the first cases of smallpox to appear in a community have been of the mild type, but these have been followed by more severe, and in many instances, fatal cases. We cannot rest entirely upon the good done by our ancestors. We, too, must act and vaccinate, vaccinate, vaccinate.

Since this mild type of smallpox has become so widespread, I have tried to find some history of a previous similar epidemic and have failed. This is not surprising. In the pre-Jennerian era there were no immunizing influences at work. During the early years of the Jennerian era, vaccination became general in the British possessions, in America and in the various European countries. Inherited immunity has thus become

quite well established. In consequence, we have the present type of the disease. But the mildness of the disease is not sufficient excuse for failing to recognize it.

The doubters and unbelievers have been telling us that these mild cases of smallpox are not described in our text books. Let us see if what they say is true or whether the picture of the disease which they have in their own minds is blinding them to actual facts.

Sir Thomas Watson, in speaking of smallpox, says: "The discreet form is scarcely ever dangerous; the symptoms largely depend upon the amount of the eruption; the secondary fever is but slightly marked in the discreet form; some times there are not more than half a dozen pustules; some times there are many thousands."

Flint says: "Not every smallpox vesicle is umbilicated; in mild cases there may remain no permanent traces of the eruption; some of the pocks do not break, but harden and their contents are absorbed. It is probable that in these cases the corium is not involved in the suppuration, or that the vesicles are not converted into pustules. Some persons are wholly insusceptible (without vaccination); some have become susceptible after having been insusceptible for many years."

Osler says: "Whether pitting takes place depends a good deal upon the severity of the disease. In the majority of cases Sydenham's statement holds good that 'it is very rarely the case that the distinct (discreet) smallpox leaves its mark.'"

In Ziemssen's *Cyclopaedia* it is stated by Curschmann that "the variations may present the most extreme limits from the severest and absolutely fatal, to the very lightest cases, in which but a few small pustules reveal the fact that we are dealing with a sick patient. None of these forms are sharply defined amidst the great group of variolous affections. Under various forms of this disease are described *Varolois verrucosa*, in which the eruption does not develop into large, well formed pustules, but remains in the form of solid conical papules, which have a small vesicle at the summit containing fluid; and again—*Variolois miliris*, 'yellowish vesicles the size of millet seed, which disappear by simply drying up.'"

Dr. Wm. M. Welch says (Loomis-Thompson's *System of Practical Medicine*, Vol. I) "there may be only a few small pustules, scarcely definite enough to verify the disease. Discreet variola is attended by no great danger. It is well known that in some unprotected persons there is naturally but slight susceptibility to infection and the disease in this class is mild and of short duration."

In Allbutt's *Practice* it is stated that from one to two per cent. of

the unvaccinated are immune to smallpox. Some say one to five per cent. Modified smallpox occurs in well vaccinated communities.

Moore, of Dublin (*Twentieth Century Practice*) says: "Many individuals have only this form of smallpox (mild) because of a naturally slight susceptibility to the contagium of disease."

Hyde, in his recent article, says: "The most significant and startling contrast between modified and unmodified smallpox is exhibited when the patient, after reaching the stage described of complete development of pustules, suddenly ceases to betray any further significant symptoms of smallpox. The pustules dry rapidly into crusts which are thrown off and leave the skin either somewhat stained at the points where the crusts formed, or in nearly its normal condition."

Is there not meat in these quotations upon which the doubters may feed to good purpose? It is worthy of note that those who dispute the diagnosis of smallpox in these mild cases of the present epidemic are much fewer in number than a short time ago. He is a bold man who will place his opinion, when he is first called upon to see one of these mild cases, against that of those who have become thoroughly familiar with the disease and its eccentricities. Mistakes are excusable, but persistent opposition in the face of accumulated positive proofs is never excusable.

Much good was done at the recent meeting of the American Medical Association, when there was passed with but one dissenting vote, at a well attended joint session of the Sections on Practice of Medicine, Hygiene and Sanitary Science, the following: "Resolved, that the disease now prevailing extensively in the United States, and called in some instances 'pseudo smallpox' is genuine smallpox, and should be so treated with vaccination and quarantine."

At no time in the history of the world have the conditions been more favorable for the spread of smallpox than the present. Our facilities for travel tend to spread the disease. This is especially true in America, for we are a traveling people. Even the laborer migrates from state to state and from province to province with greater ease than people made journeys of fifty miles in the pre-Jennerian era.

It is impossible to give accurate statistics for an epidemic while it is still in progress. Suffice it then to say that a recent journal gave as the total number of cases of smallpox for the United States, since the beginning of the epidemic, as thirty thousand. I venture to say that if all the cases in all the states had been reported, the total would exceed a hundred thousand.

I have told you when and how smallpox first appeared in Minnesota. Let me also quote from reports for a few other places. Smallpox existed

in Florida, January, 1897 ; in Alabama, March, 1897 ; in Tennessee, April, 1897 ; in Georgia, October, 1897 ; in South Carolina, January, 1898, in North Carolina, January, 1898; in Kentucky, February, 1898; in Virginia, February, 1898 ; in District of Columbia, February, 1898 ; in Ohio, April, 1898 ; in Pennsylvania, April, 1898.

One report says that the disease had existed for two years prior to 1897 among the negroes in Alabama, unrecognized as such by the physicians.

Infection for both Kentucky and Alabama is given as Cuba. The march northward is distinctly shown by the dates appearing one after another.

In 1898 New York state is said to have had three hundred cases, all traceable to one source of infection—a traveling show. In this number there was but one death.

The march westward seems to have been by way of Arkansas, for in January of 1898, a case is reported as occurring at Little Rock—a negro woman from Birmingham, Alabama. Undoubtedly it was this infection that extended to Nebraska. Arkansas was also infected by way of Mexico (epidemic at Fair Oaks, March 1st, 1898, the first case coming from Mexico, February 7th, 1898).

It was quite possible for Texas to have had her infection from some one of the Southern states or from Mexico, and for the disease to have reached the Pacific shore of the United States from any of these sources.

In the Province of Quebec, from reports it would appear that there had been four epidemics since January, 1897—the first July 5th, 1897 to April 8th, 1898, with 26 cases and 14 deaths in Montreal, and 9 cases and 2 deaths outside Montreal. The source of infection is not given in the reports, but it undoubtedly was not from the Southern states at this early date. The outbreak seems to have been of the old-fashioned type. The second in districts outside of Montreal, between January 9th, and April 1st, 1899. Fourteen cases are recorded with one death. The infection is given as from a so-called chicken-pox case, but the source of the infection for this improperly diagnosed case does not seem to have been known. This outbreak represented the mild type of the disease and was in all probability introduced by way of the States.

The third epidemic existed from November 20th, 1899, to September 27th, 1900. Twenty cases were reported from Montreal, with seven deaths. Two hundred and ninety-seven cases were reported as occurring outside of Montreal, with but three deaths. The source of infection for this epidemic is given as New Bedford, Mass., Taunton, Mass., Bradford, Pa., and "a tramp."

The fourth outbreak is recorded from March 4th to May 27th, 1901,

and seems to have been of the characteristic mild type prevailing throughout the United States, for there were reported three cases in Montreal, with no deaths; and two hundred and twenty-three cases outside of this city, with but two deaths. The sources of infection for this epidemic are given as Duluth, Michigan, Ontario, Wisconsin and Massachusetts.

There is a report in the Journal of the American Medical Association (August 10th, 1901, p. 396) of three hundred and thirty-seven cases in the Province of Quebec from January 1st to August 1st, 1901, with but one death. This seems to be a more recent record than that given for the four epidemics referred to in this province, which is up to May 27th, 1901, only.

The Province of Ontario seems not to have been free from smallpox since January, 1898. The sources of infection given are from various parts of the states, as well as from certain points in the province itself. The records that I quote for Ontario report five hundred and thirteen cases, with eighteen deaths (January 25th, 1898, to May 5th, 1901). The disease was apparently of the mild type prevailing in the United States.

I have no record for other provinces in Canada, but there certainly is no reason why those bordering on the Northwestern States should not have had many cases similar to those found in North Dakota, Montana, Wyoming and Washington.

There is quite a tendency to predict a more severe type of the disease to follow in the wake of this mild type. It would be strange indeed if such a result did not follow. It is not safe, however, to make any such predictions for the near future. It is surprising that the disease should have already been present in the United States for a period of at least five years, with so little change in its character for the worse.

It may be well to again quote from the Journal of the American Medical Association (August 10th, 1901, p. 395) where the mortality from smallpox in New York state is given as seventy-four for the month of June, the highest mortality from smallpox for any one month in the history of the state. It would seem that New York is already showing evidence of a change in the type of the disease.

Finally, in closing, let me name the three cardinal points to be observed in suppressing smallpox: Vaccination, Isolation and Disinfection

THE NECESSITY FOR THE EARLY REGOGNITION AND TREATMENT OF INSANITY.

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THE care and treatment of our insane is a question which ought to interest every physician and taxpayer in the state. We have, in round numbers, in the various asylums and institutions where the insane are cared for, about five thousand persons, necessitating an outlay of about five million dollars and an annual expense of about one million five hundred thousand dollars for care and treatment. Not only is the question one of interest from an economical standpoint, but it is of the utmost interest sociologically. Insanity, in some form, permeates all classes of society; no one can claim exemption. No disease is so far-reaching in its effects nor involves a wider range of interests regarding individuals, families, and even communities. For the individual, social and business relations are at once seriously involved; for the family, the dearest ties on earth are disturbed; in many instances there is personal danger, and, it may be, the removal of the head of the family to the care of strangers, with the consequent loss of income and necessary expense, and, unfortunately, the stigma wrongfully attached to persons, and even families, known to be tainted with mental disease. However treatment may be administered, at home or in a public or private institution, there is involved an expenditure of a large amount of public or private funds.

There is, perhaps, no disease which, when it attacks any member of a family, creates so profound an impression. Take, for instance, the mother with child, it may be her first or it may be her sixth; the child is born, and the physician and friends are looking forward to a speedy and happy recovery, when, like a thunderbolt from a clear sky, the friends' joy is turned into intense anxiety, the resources of the physician are taxed to the utmost.

In this hour of sorrow the family and friends look to the physician for counsel and advice.

Symptoms.—A week or ten days after parturition, the patient's face becomes pale and careworn in appearance; the eyes unequal in lustre; skin moist, tongue coated, breath offensive, lochia suppressed, temperature high; patient becomes restless, attempts to jump out of bed or window; conversation incoherent. These are a few of the premonitory symptoms which call for prompt recognition by attending physician. I recall two cases which came under my care for treatment while in charge of the Upper Peninsular Hospital for the Insane. One patient

was not considered in serious condition until, by accident, her husband found that she had secreted a large butcher knife under her pillow. When questioned, she acknowledged her intention of killing both husband and child after they had gone to sleep. The other case was that of a woman who contemplated roasting her infant in the oven, but vigilance prevented.

Difficulty and Necessity for Early Diagnosis and Treatment.—We have come to look upon insanity as a disturbance of the intellectual areas of the brain, manifested by partial or complete derangement of the mental faculties, a derangement manifesting itself in methods of thinking, feeling, and acting which are unusual to the individual when in mental health. There is no common standard of sanity by which mental aberration can be judged, because no two individuals think and act alike. No individual can be called insane because he differs mentally from others. Every individual has his own standard of mental action, and can be considered insane only when he departs from his own standard, when normal mental action is supplanted by abnormal mental action, or when, in common parlance, he is "off his base." Insanity may be considered a relative condition. We must compare the condition in which we find the individual at the time of examination, his conduct, manner, and speech, also the organs of the body, including the eyes, tongue, skin, circulation, appetite, bowels, sleep, motion and sensation, with his normal mental and physical state, as shown by his former habits, temperament, environments, etc. A nervous, excitable temperament may from slight cause become exalted or depressed, which up to a certain degree would be within the normal physiologic range in that individual, while such manifestations occurring in another individual of entirely different temperament, might justly stamp him as insane. Thus two individuals may manifest similar mental symptoms and one be considered of sound mind while the other may very properly be considered insane. It is when mental activity goes beyond the physiologic limits and the individual passes into a psychopathic state, that he may be regarded as insane. It is often very difficult to say where health ends and disease begins; the onset, if gradual, may extend for months and even years, before the lines between sanity and insanity are well-defined.

Necessity for Early Treatment.—For obvious reasons, when a member of a family becomes afflicted with insanity, in many instances, the immediate friends fail to recognize the full import of the situation, to the detriment of patient and not until the disease is well advanced are proper steps taken for care and treatment. This lethargy or indifference is not practiced in relation to other diseases, then, the physician is at once con-

sulted, but when mental aberration occurs there is a disposition, it may be for social or other reasons, to cover up the actual conditions. It is not a little gratifying, however, to know that a large amount of the prejudice which has heretofore existed, in relation to insanity, is fast passing away, and it is now looked upon more as other diseases. When the friends, the public and the medical profession look upon mental disease in the same light as pathological conditions in other parts of the organism, amenable to the same laws of cause and effect, then, and not until then, will mental disease receive the early recognition which its importance merits.

Too often the specialist does not see the case until the symptoms are well developed. The friends of the patient fail to comprehend the gravity of the situation, or, realizing it, are unable to decide what course to pursue. I have little doubt but that many of the chronic insane now public charges, and forever lost to their friends, could have been restored to health had the early symptoms or danger signals been recognized and treated. Fortunately the immediate danger of death as well as the hope of recovery can generally be decided during the first year. If actively and skillfully treated within the first month, 70 per cent. of those attacked may be cured, but if not treated until the sixth month of the disease only 50 per cent. can be cured, and for each subsequent month the hope of cure diminishes. After the first year not more than 10 per cent. recover, and after the second year and until the twentieth year of the insanity an exceptional recovery may occur. Practically, however, insanity may be regarded as having little hope of recovery after the first year. Seventy-five per cent. of cures in hospitals for the insane occur within eight months from the date of admission of the patients.

If there was one lesson more than another indelibly stamped upon my mind by institutional experience, it is the fact that the curability of insanity largely depends upon its early recognition. The longer delay the less chance of recovery. The great pathological law which obtains in most diseases has greater significance when applied to insanity.

Institutional versus Home Care and Treatment. This is a question of great importance, and intelligent conception of the nature and diagnosis of the disease is necessary in order to give valuable advice on the subject. The future welfare, and possibly cure, of patient, will depend upon the proper solution of this problem. If possible, it may be better for patient if treatment can be carried out at home, on account of the popular stigma of insanity and loss of standing of those who have been inmates of hospitals for the insane. The fact that the patient did not have to go to an asylum favors the impression that the trouble was

not serious, and popular prejudice towards one upon whom the official seal of insanity has been stamped by commitment to an institution for the insane, is largely avoided. But, while guarding the interests of patient against this popular feeling, the physician has other considerations that must influence him in his decision. For instance, the influence of home treatment upon members of patient's family. It is a duty to suffer inconvenience, and even hardships, in behalf of sick members of the family; the obligations are the same when insanity occurs, although there is a limit to moral obligation, and that limit is reached when the health of the family is jeopardized. The financial consideration often settles the question. The expense of home treatment is greater unless there are members of the family suitable for nurses. Except in very mild cases, one is required for the day and another for the night, and a suitable room must be provided with doors and windows properly secured.

If the patient be homicidal, suicidal, destructive or noisy, institutional treatment is strongly indicated. In many cases, separation from family and friends is one of the most effective means of cure. The feelings and ideas of the patient may be so interwoven with family or friends that their presence is a constant source of morbid symptoms, and the first step towards cure is the removal of all sources of irritation or delusions. Isolation also furnishes the rest and quietness which is needed in the early stage of the disease in many cases. Institutional life is often highly beneficial on account of its perfect regularity, the conformity to daily habits of exercise, occupation, recreation diet and sleep. The force of the whole machinery of a well-appointed hospital, moving like clockwork, is one of the most irresistible means of introducing order into the disordered life of the patient. However, when a probable curable case is committed to an institution where there are many incurable cases, the effect is not all that could be desired. As the case, say of melancholia, improves, the darkened intellectual horizon begins to show signs of returning light, the patient sees on every hand mental wrecks, in all stages and in all conditions, from the raving maniac to the hopeless dement.

I have had them ask me in most pitiful language: Is my condition hopeless like the rest here? Such cases do better in a private institution, where the individualized treatment is more fully carried out, and the patient receives more constant attention from the physician and attendants, thus deriving the great benefit of the influence of the sane upon the insane mind.

Deception is often practised by friends (and, I regret to say, physicians sometimes lend themselves for the same purpose) and false statements

are made to patients in order to allure them into institutions. To accomplish this purpose, some very ingenious schemes are laid by well-meaning but injudicious friends. Illustrations :—an only son, aged 18 years, a high school student, had become mentally unbalanced, chiefly in relation to study, but was quite intelligent on other subjects. The parents induced him to take a ride on the car to Mt Clemens and by so doing inveigled him into a hospital for a week's treatment, when in reality he needed three months or more to receive any lasting benefit. Another case was that of a wife and mother who imagined that she had some rich relatives in Cincinnati and that she must go and see them. The friends even went so far as to secure the tickets for Cincinnati and told her to be ready at a certain hour ; the carriage calling as she was told, she not even suspecting anything different until driving into the hospital grounds. Such deception cannot be too strongly condemned. The case is a very exceptional one when judicial and diplomatic measures fail to accomplish the desired object. In some of the states a trained attendant is sent to accompany the patient from home to destination, which is a very commendable procedure. When an intelligent person becomes mentally unbalanced, it may be on one subject, deception is keenly felt and causes dissatisfaction with the new home ; I care not how pleasant it is, nor how they, whose duty it is to care for patients, labor to gain his confidence, one of the first essentials to successful treatment.

Prognosis.—The questions will be asked the physician : Will the patient survive the attack ? How long before cure is complete ? If cured, is there likely to be a recurrence of the attack ? And what will be the state of the patient, will he be able to attend to business ? Will he be well enough to live at home ? To be able to answer these questions requires extensive experience in mental disorders. The prognosis in mental disease at the onset is difficult to foretell. It is well to bear in mind that the unexpected often happens. A patient may be maniacal to-day, as in mania transitoria, and in a week or a month be clothed in his right mind. A common mode of termination is partial recovery with general weakness of mental faculties remaining. Probably about one case in four will terminate in this way. Our state institutions contain a large percentage of this class, they form what is known as the "working gang." The rate of recovery diminishes with age and is slightly more favourable among women than among men. It averages from thirty per cent. to forty per cent., calculated on admissions in hospitals for the insane in the United States. By striking an average as regards age, sex and form of mental disease, the following estimate is considered as very nearly the average result to be expected in mental disorders : of one hundred per-

sons attacked for the first time by insanity, seventy will eventually die insane; thirty will recover and die sane; twenty will recover but will relapse and will be among the seventy to die insane; fifty will not recover at all. The hope of recovery diminishes with each successive attack. The majority of first recoveries even leave a slight impairment of the intellect. It has been estimated that the average life of the insane is about twelve years.

I recall one case which was taken to Kalamazoo shortly after the opening of that institution, where she remained until transferred to Traverse City. When the U.P. Hospital for the Insane was completed she was transferred to that institution where she still remains, physically well, having spent more than thirty consecutive years in these institutions.

Illustrations of uncertainty in diagnosis.—I recall the case of a married woman who entered the U.P.H. in 1895, having been in another institution, prior to that time. Only a few months ago she returned to her husband in a neighboring city, a comparatively well woman. Her condition was such during all these years as to warrant a hopeless prognosis, which was made by myself and others who had seen her.

While a member of the the Michigan State Board of C. & C. I, several years ago, with other members, was called upon to examine a dangerous lunatic in the Pontiac asylum; application having been made by the Superintendent for his removal to Ionia, on account of homicidal tendencies. At that time he was a raving maniac and subsequently was taken to Ionia. It was the opinion of those in charge of the asylum, who had watched and studied his case, that he would pass into a demented condition and would not live long. That man has been doing business in this city for several years, and may be seen almost any day on Griswold St., and perhaps no one but an expert in mental disease would detect any blunting of intellect.

THE IMPORTANCE OF CLIMATIC TREATMENT IN PULMONARY TUBERCULOSIS.

By L. BENTLEY, M.D., Toronto.

AT the meeting in Toronto of the Dominion Medical Association it was casually remarked that consumptive patients sent from home for a climatic change required, while there, medical advice. This is true for many reasons, as there are a number of different forms and stages of the disease, besides idiosyncrasies of individual patients, all of which conditions require consideration in each individual case.

Most patients in this country are advised to go to our own North West or to the South or South Western States, as Florida, New Mexico, Arizona, Colorado, etc., but none of these has such a variety of climatic and scenic conditions as Southern California. The average phthysical patient sent there without instruction, however, would be simply lost as to where he should locate; and, besides, would be most likely to fall into the hands of quacks. The habitable portion of Southern California, is roughly speaking, about two hundred miles north and south, with an extreme width of about one hundred miles. In this space, from the sea level to any desirable altitude, one might locate where there is never frost, or where there is frost every day in the year; where there is a great deal of fog and dampness, or where fog is almost unknown; where the sub-soil is constantly wet, or where it is constantly dry; where vegetation is most luxuriant, or where there is almost complete absence of vegetation.

If we consider the different stages of pulmonary tuberculosis, and different individuals, we will readily see that medical advice of the right sort in such a climate is imperative. Protection from empirics is a point of importance. Anyone who has been at climatic health resorts will know how difficult it is to prevent patients from being misled by quack advertisements and designing persons.

The time is coming, if it be not already here, when the consumptive will be shunned by the public. At any rate, the consideration of what is to be done with our phthysical patients has become of vast importance; and the medical profession, without aid, cannot do all that might and should be done. We all know how difficult it is to get State aid for such a purpose. A quarter of a million dollars a year might easily be spared by the Dominion Government, to be supplemented by proportionate grants from each of the provinces, to make a liberal sufficiency.

We believe that phthisis can be cured. If so, climatic influence must have a great deal to do with this cure. To select localities suitable

for such treatment should be the work of the medical profession and the State should bear the cost. Possibly a proper method to adopt would be for the Dominion Medical Association to appoint a commission to examine into and report on the merits of different localities for treatment of the disease. Medical men might then be selected or others induced to go to those localities, so that patients sent there would have confidence in their medical treatment.

No one place is suitable for all cases. A very desirable climatic condition which we cannot have in Canada is a bracing mild atmosphere in the winter season, where a patient can remain continually and comfortably in the open air. The substitutes which we have are not entirely satisfactory. Another point in the treatment of phthisis is the financial position of the patient himself. Many patients have simply to die at home because they cannot afford to go away. Many others go and are barely able to support themselves. They cannot have the necessary comforts, and possibly they may have to work at uncongenial employment in an improper locality. One needs to see this last condition to fully appreciate the hopelessness of such patients. Their sad, weary life leaves nothing to be hoped for, and they cannot recover under such conditions. How different such a patient would be under proper care.

Every honest man who is a subject of the State should be provided for by the State if he is unable to provide for himself. Laws are supposed to be enacted for the public good. In this instance, it would be for the public good to have the individual taken care of—not as an act of charity, but as a right. There can be no doubt that our Government spends millions yearly for purposes not so commendable as to assist in stamping out this acknowledged plague.

Another important point in making a climatic change is a decided change of scenery. In Southern California the scenery in most localities has an untiring beauty, which it is hard to surpass. At San Diego, the most southerly city on the Californian coast, with a population of 35,000, we have a city built on rising ground till it reaches several hundred feet above the sea. From the upper part of the city an extended view may be had of the ocean, Coronada Beach, and the harbor enclosed by the beach. The temperature is equable and mild, with less fog than is usual along that coast. Coronada Beach is a favorite resort during summer. There are a number of coast resorts which are suitable for phthisical patients, but for the majority of patients the mountain resorts are better for the summer season. Proper winter resorts are of far greater importance, however, and the interior of Southern California furnishes many places which leave but little to be desired for tuberculous patients. A

climate so mild that one may live out of doors the winter through ; the air as pure as it is possible to be ; with scenery so beautiful that one never gets tired of it ; while any desirable altitude may be reached. The upper end of the San Bernardino valley is, perhaps, the most typical of these points. The valley is surrounded on three sides by the Sierra Madre mountains, with the highest peaks in full view—Mt. San Bernardino, 11,800 ft. ; Mt. San Gorgonia, 12,600 ft. ; Mt. San Jacinto, 10,100 ft. ; Mt. San Antonia, 10,142 ft. These mountains protect the valley from the violent north winds or sand storms which sometimes sweep down the Cajon Pass, and thence down the lower part of the valley. The chief cities, towns and health resorts are San Bernardino, altitude 1,100 ft. ; Redlands, from 1,400 ft. to 1,800 ft. ; Mentone, 1,647 ft. ; Arrow Head Springs, 2,035 ft. ; Crafton, 1,775 ft., and Highlands, with an altitude of 1,313 ft. All these places are nearly free from fog except San Bernardino. Even in a few miles there is a remarkable difference in climate. For instance, Redlands produces oranges of the finest quality ; while San Bernardino, nine miles distant, grows none. The sub-soil of San Bernardino and vicinity is always moist, and there are many artesian wells which produce a large volume of water, which is conveyed to South Riverside for irrigation purposes. San Bernardino is also in the direct line of the "Northers" (sand storms). These storms also strike Riverside and Ontario, which places have considerable fog. Redlands and other places in the upper end of the valley have a dry sub-soil, and are protected by the mountains from the north wind. All vegetation is produced by irrigation. The scenery viewed from Redlands is most magnificent, and it is particularly so during the winter months when there is plenty of snow on the mountains. The winter air is clear, dry and bracing. Even during the rainy spells the sun may shine many hours during the day and the rain fall at night. The wet spells are of uncertain duration, but the interval between them is long, when there are no clouds. The sun shines day after day, week after week, with no cloudy days. There is but little frost. Oranges ripen during the winter, and are seldom injured by the frost. The trees bloom in the latter part of February, when the fragrance of the blossoms is noticeable everywhere. The altitude of the business part of Redlands is about 1,400 ft., while the highest portion of the residential part is 1,800 ft. Ten years ago Smiley Heights, at Redlands, was a desert hill—now it has nearly one thousand varieties of vegetation, mostly full grown, and five miles of park drives. The late President McKinley, while being driven through this park, is reported to have remarked : "This is a sight for the gods." The scenery in such a climate cannot be other than salutary to the sick.

One hot day in August, having occasion to go in the mountains, I took dinner at the end of the wagon road—eleven miles from Redlands—at the house of a mountain guide on Mt. Thurmann (Alt. about 3,000 ft.). The meat we had for dinner was cut from the carcass of a sheep that had hung in an open shed for ten days—in fact there was barely enough left to make a meal for three, still it was perfectly sweet. I presume the only cause of the perfect preservation of the meat was the pure, dry atmosphere. Eleven miles further on in this same range is a locality called Seven Oaks, an ideal spot for a summer health resort for those able to bear the fatigue of the journey, which has to be made on horseback. The altitude is 4,850 ft. The Santa Ana river, which is fairly stocked with brook trout, rushes down the canon at a rapid rate. During the season in question, there were several patients there with lung disease who expressed themselves as much improved in health during their stay. There is seldom a cloud to be seen, and rain is very rare during the summer months. Some patients go still higher to Bear Valley, altitude 6,400 ft. Bear Valley has an artificial lake some six miles long, well stocked with brook trout. The mountains here are not by any means barren. There is considerable pine forest. Game is also found in this locality. There are many places in the same neighborhood where high altitudes may be reached without so much inconvenience. Possibly of more importance than the foregoing is a condition of climate and atmosphere which is well described by I. Burney Yeo in his work "A Manual of Medical and Clinical Therapeutics", Vol II, Page 119, and is well worth perusal. The great importance of the winter treatment of phthisis leads me to discuss my own experience in the mountains in winter, which, if somewhat modified would be of great benefit to patients in the early stages of the disease. In January following the summer above mentioned, I took a man with me to build a cabin for summer use in the vicinity of Seven Oaks. The night of our arrival, a snow storm set in which lasted three days. When the storm was over we had four feet of snow. The sun then re-appeared, and was brilliant for the remainder of the four weeks I was there, and for several weeks after. During this time there was scarcely any wind. At sunrise the thermometer was usually about 0° F.; at this time we had breakfast. Immediately after breakfast, the sun being well up, I could lie on a heap of brush in the open air without an overcoat and smoke my pipe in perfect comfort. This warmth continued till sundown when the cold again set in. During the day at any time in the shade one would at once feel the cold. The snow did not disappear, as one would expect, but remained dry not a particle of slush could be found. The earth beneath the snow was dry and porous, with a steep incline. I

had previously spent two winters on the north shore of Lake Superior, and there learned the value of snow shoes. As we had none, I managed to make a rough substitute with "shakes" (a sort of shingle for roofing). With these we got around pretty well and enjoyed some shooting. Quail were plentiful. A number of deer were seen, one of which fell to our lot a hundred yards from our habitation. We were forced to remain on account of the trail being covered with snow, but at the end of four weeks a guide was sent in for me, and I went out with him, leaving my companion in the mountains to finish up the work we had commenced. I started to walk back to Redlands with the guide, whose home was eleven miles on the way, which point we reached in due course. Here I left the guide who was by far the most fatigued of the two, and continuing on, reached Redlands a few hours later. I was not an invalid to commence with, but I know I was never in better physical condition than on the day I walked twenty two miles out of the mountains, which would be equal to double the distance on ordinary roads.

For a practical application of the above, the same conditions of atmosphere, altitude, etc. can be easily found without going nearly so far for it. Such localities are to be found in the foothills, where one would be convenient to the adjacent valley.

The advantages would be much superior to the tent life in winter now advocated for tuberculosis in our own climate. In the instance, which I have described we had the purest dry atmosphere, no possible floating particles, a constant general sunshine, any altitude from 2,000 to 5,000 ft. or over. Such an atmosphere would be both aseptic and antiseptic—no winds, no fog, atmospheric temperature low,—therefore bracing, and still, owing to the direct rays of the sun and rarified air, there is perfect comfort during every hour of sunshine.

It would seem that if there were a systematic procedure in discovering pulmonary tuberculosis, a large percentage of cases would be greatly benefited by such a climate, and very many cured. Early cases sent to a sanatorium with nothing to occupy their minds, no recreation except that of a forced nature—in fact, practically nothing to do but sit down and be cured, seems rather discouraging.

TUBERCULOSIS OF THE EYE.

By D. C. TROW, M.D.C.M., L.R.C.P., London.

Professor of Ophthalmology and Otology Trinity Medical College; Eye and Ear Surgeon to Toronto General Hospital and to the Hospital for Sick Children.

TUBERCULOSIS has been seen in the lids, the conjunctiva, the lachrymal gland and sack, the cornea, iris, ciliary body, choroid, sclera, optic nerve and orbit; and yet it is not frequently observed. I will content myself with giving a short synopsis from recent literature on the subject.

Dr. Hansel, Phil., in *Annals of Ophthalmology* of July last, recites a case in a child three years old with an ulcer in the conjunctiva excised and cured. Eyre reports three cases in which inoculation experiments were made, and all the animals died of tuberculosis of various organs, about six weeks after. In two of the three cases he found Koch's bacillus. He claims that this infection occurs once in 2,700 cases.

The cause may be self infection, such as wiping the eyes with the fingers, carrying tubercular material, or from metastasis, or traumatism. Knapp had a case following the operation for squint. Methalsky records six cases of infection from cataract operation, and four metastasis. Several others have cited cases due to injuries.

The palpebral conjunctiva is involved far more often than that of the ball. The bacilli cannot always be found. In Denigs tables out of seventy-two cases fifty-two showed no sign of tuberculosis of other organs, fourteen were suspected of hereditary taint, three showed evidences of previous tuberculosis in the eye, and seven in other organs. Ten cases relapsed some years after as follows: one, tubercular glands of cheek and nose; one, lupus of conjunctiva cheek and nose; four, phthisis pulmonalis; one, meningitis, one, miliary tubercle.

In eighty-six cases of the uveal tract sixty-seven had no signs of tubercle elsewhere, forty were absolutely healthy, twenty-seven suspicious, and four had earlier tuberculosis. The eyes were enucleated, and thirty-nine were heard from in from one to eleven years later. Of these nine died of tuberculosis, proving either that radical operation (enucleation) is not sufficient to cure, or that the locus tuberculosis was secondary, or that removal of the primary seat of the disease was not sufficient means to to conquer the disposition of tuberculosis.

Hansel says many cases are masked by trachoma; and others are diagnosed as trachoma that are tubercular.

Dr. A. Levy, of Montreal, had a case in a child who had a cervical abscess from which the eye got infected. The parents refused an opera-

tion; and some months later, when the child was seen again there was complete healing.

Prof. Uhthoff, of Breslau, says that 80 per. cent. of patients suffering from severe relapsing scrofulous ulcer (phlyctenular keratitis or conjunctivitis) reacted to tuberculin, and probably were tuberculous. He asks, how shall we treat preauricular, and sub-maxillary lymphatic glands? Are they a protection or even destroyers of the tuberculous virus as long as they do not suppurate; or are they to be removed; and he expresses doubts. He cites a case of tubercle in the eyes of a young lady, apparently propagated through the lachrymal duct (without any marked signs of dacryocystitis) from a tubercular mucous membrane of nose, soft palate, and epiglottis.

Prof. Peters, of Bonn, in (*Zeitschrift für Augenheilkunde*, Mai 1900), in an article on tuberculosis and sympathetic ophthalmia. The idea which prevades this communication is that sympathetic ophthalmia is probably tuberculous in its nature. He says in an hospital in that city, among 10,000 injured, at least 500 showed tuberculosis at the site of the injury, and this was seen more frequently in cases of slight injuries, where the disturbances of function were comparatively trivial. In a number of cases thus so-called, post traumatic tuberculosis, was the first manifestation of the disease, and this high percentage of cases leads Peters to think there is no organism which is so likely to take root, and to grow at the site of an injury as the tubercle bacillus. He seems to think that irritation of the ciliary nerves, just as we find after injury of the eye, could bring about conditions favourable to the colonization and multiplication of the ubiquitous tubercle bacillus, and he ventures the opinion, that many cases of chronic insidious iridochoroiditis with blindness, and lowered tension, following either an injury or an operation may rest upon a tuberculous basis.

Fuchs, my respected teacher and friend, of Vienna, says that parenchymatous keratitis may be caused by tuberculosis more often than has been hitherto supposed.

Sensberg (*La Clinique ophtalmologique*), reports a case of tuberculosis in the cornea, cured in a woman who had suffered from lupus of the forehead for a long time; no pulmonary involvement.

In the last meeting of the British Medical Association, Mr. Sydney Stephenson and S. George Carpenter read a note on tuberculosis of the choroid, viz;—"In miliary tuberculosis they usually found two or three spots; while in chronic tuberculosis the lesions might be multiple or single. Sometimes it assumes the form of an intraocular growth, and occasionally it becomes quiescent." The president mentioned a case in

which a large mass of tubercle of the choroid subsided under treatment and rest, and Mr. A. S. Percival described a case of the kind which he had seen.

As to treatment of the conjunctiva, the two methods that have received the strongest endorsement, are excision or the galvano cautery. The inflamed section of the conjunctiva and a healthy zone surrounding it should be excised. If the preauricular or other glands are involved, they should be included in the operation. If the case has gone beyond the operative stage the ulcers should be burned by the galvano cautery.

In tubercle of the iris occurring as disseminated (miliary) tuberculosis, and a conglobated (solitary) tubercle, *i. e.*, either in the form of small nodules, or as a larger growth, resembling a neoplasm. In the milder cases recovery may take place, while in the severe ones the eye is usually lost. The treatment in addition to combating the local symptoms iritis, constitutional remedies should be given, and instructions as to the mode of living, etc. If the disease keeps on, and blindness is impending, it is better to remove the eye by enucleation, that it may not be a source of further extension of the tuberculosis.

A few have claimed that an iridectomy has cured, but several failures are also mentioned, and most authors do not advise it. Deeper deposits as a rule require enucleation, that is if an operation be advisable.

CYST IN RIGHT NASAL PASSAGE.

By B. F. BUTLER, M.D., London.

My only excuse for having referred to this case is its extreme rarity, being the first growth of the kind during my special practice extending over a period of twelve years.

It was attached to the under surface of the middle turbinated body near the posterior end.

The naso-pharynx contained a large myxo-fibroma, attached to the upper edge of the posterior naris of the same side and extending nearly to the base of the tongue.

Both growths were easily removed, and there was no recurrence.

The real nature of the cyst was disclosed through rupture of the thin wall of the sac, with expulsion of the yellowish liquid contents during the tightening of the wire in removal.

MILITARY MEDICAL TOPICS AND NEWS.

Conducted by Major Nattress, P. M. O. M.D. No. 2.

In the last issue of THE LANCET we gave in part the personnel of No. 10 Canadian Field Hospital. Since then its organization has been completed while in Halifax awaiting the arrival of the transport Victorian.

The time was utilized in getting the more or less raw material into a well organized unit. Another officer was added to the strength of the unit—Lieut. Weatherbe, who has already been in South Africa in connection with the Edinburgh Field Hospital. Non-commissioned officers were selected, amongst whom, it is interesting to note, Private Dr. Parry was made assistant ward sergeant. A mounted parade before the general officer commanding proved very satisfactory, and was commented upon favorably by that officer.

A brief description of a Field Hospital may not be uninteresting. It is a moveable concern, capable of accommodating temporarily about one hundred patients.

Its personnel consists of five officers, viz.: Four medical officers and a quartermaster, with 35 non-commissioned officers and men. The ground required for its encampment is 70 by 160 yards, and its tent equipment consists of, according to the English establishment, 40 bell tents. Twenty-five of these tents are for the sick and wounded. Each tent will accommodate four patients, excepting in the case of the severely wounded, who require more room and more attention, when two only are put in a tent.

For the accommodation of the patients No. 10 C. F. H. is equipped with the Munsen small marquee which affords room for six, or if pressed, eight patients. Sixteen such oblong tents make up a hospital for from 96 to 128 patients. These tents can be placed in a single line, end to end, and by drawing the curtains form a continuous corridor, with patients on either side, or they can be arranged more compactly if the ground be suitable, by forming two crosses, each arm having two tents, the crosses being near enough to each other that an arm of each is in juxtaposition. At the centre of each cross is a convenient space suitable for tables, dressings, stores, etc., thus making two convenient administrative centres for the nurses.

Immediately in rear of the patients' tents are three tents—the surgery, the operating and office tents. Next to these are four tents for the non-commissioned officers and men of the hospital, as nurses, etc.

while close to these are the two water carts and kitchens, one of each on either side. Still further to the rear are three tents for the officers, and behind all the horse lines and waggons, and four tents for the men of the transport service. Outside of all, in the rear, is the mortuary tent.

By day a Field Hospital is recognized by a white flag with a red cross in the centre, and by night by two horizontal white lights. At retreat, when the flag is lowered, a red lantern is run up.

The medical and surgical equipment of No. 10, C. F. H., comprises, in addition to the usual English hospital equipment of field panniers, surgical haversacks, medical companions water bottles, etc., the following list of supplies furnished by Chandler & Massey, Toronto :

Two chests of dressings and instruments.—These contain a general equipment of instruments and surgical dressings, including gauzes, plain and medicated ; absorbent lint bandages, ligatures, plasters.

Two chests of drugs.—These contain drugs put up in tablet form, placed in square tins, fitted compactly into chest.

Two chests reserve hospital diets.—These contain Bovril, Armour's soup tablets, condensed cream, tea, sugar, arrow-root, etc.

Two chests reserve dressings and instruments, comprising rubber goods, enamel goods, and general hospital supplies.

Two water sterilizers.

One acetylene gas plant.

Two water filters.

Two dressing sterilizers.

There is also a complete outfit of dental instruments and goods.

Transport.—A most commendable feature in connection with No. 10 C. F. H. is that it is equipped with its own transport. In the English army establishment the medical units have to requisition on the army service corps for transport before they can move from place to place.

On receiving his commission Lieut. J. A. Roberts left hurriedly for Washington and other centres. He was accompanied by Mr. Chandler, their object being to pick up hints in Field Hospital equipment. They visited Washington, Philadelphia and New York, and were very kindly and courteously received, and were able to pick up much valuable information

Toronto's friends military and civil, gave a banquet at the Toronto Club to Dr. Roberts, at which they had hoped to have also Drs. Worth-

ington and Tremayne, but rush of business prevented them from being present. Major Nattress occupied the chair, and amongst those present were Col. Ryerson, Majors Fotheringham, Scott and Cotton. Drs. Bruce and Clarke and Messrs. Macfadden, Chandler and Massey.

A very pleasant time was spent, and the party dispersed amid hearty congratulations, and "God speed to 'Bobs' the popular young officer."

Nursing Sisters for South Africa. — The following Nursing Sisters have been nominated for service in South Africa, and their appointments have been approved by the Right Honourable the Secretary of State for War :

Nursing Sister Georgina F. Pope.
" " Sarah Forbes.
" " Deborah Hurcomb.
" " Margaret Macdonald.
" " E. Eleanor Fortescue.
" " Florence Cameron.
" " Margaret Smith.
" " Amy W. Scott.

The Nursing Sisters embarked at Halifax on the R. M. S. "Corinthian," on the 27th ultimo, for Liverpool, *en route* to South Africa.

All letters to the officers and members of the Hospital Unit should be addressed to No. 10 Canadian Field Hospital, A. M. C. Field Force, South Africa.

Dr. Farrell, who went to South Africa as a trooper with the 1st C. M. R., remained after the return of that corps and became a medical officer in the R. A. M. C. He has just returned, having grown weary of the service. He has had a very varied experience and a number of narrow escapes. He was for a time with the late Col. Beaume's column in charge of a section of a Field Hospital and Bearer Company.

G. C. Ferrier and D. Eby were the last recruits to No. 10. C. F. H.

CURRENT MEDICAL LITERATURE.

Conducted by A. J. MacKENZIE B. A., M. B.

THE PATHOLOGY OF DIABETES.

IN the January number of the University of Pennsylvania Medical Bulletin, this subject receives an exhaustive treatment, by Simon Flexner, M. D., Professor of Pathology in this college.

Extirpation of the pancreas in the dog causes, without exception, a severe diabetes; and as the sugar in the urine increases a corresponding emaciation appears; when this becomes very great, the amount of sugar decreases and acetic acid, acetone, and oxybutyric acid appear. Incomplete removal of the gland is not necessarily followed by diabetes, *e.g.*, if one-fifth of the gland is left in place it may be averted, but the diabetes resulting from total extirpation is necessarily fatal. The excreted sugar is glucose, a pure albuminous diet does not reduce it below five per cent., and after seven days starvation it still is demonstrable. Apparently then the pancreas influences and regulates carbohydrate metabolism, no other organ can act vicariously in this way, but this is not equivalent to saying that the pancreas is the only organ the disturbance of whose function is capable of producing diabetes.

The pathologic changes associated with pancreatic diabetes are various, the chief one being concretions in the ducts, while next in frequency comes the primary atrophies, fibrous indurations, etc. Although the evidence is not complete, yet it seems to prove that the pancreas in man, as in the animals, is intimately concerned in regulating the carbohydrate metabolism of the organism, a function quite independent of the digestive one, and probably due to an internal secretion. None of the theories advanced to explain the cause of pancreatic diabetes sufficed to explain all of the phenomena observed, but what appears to be beyond doubt is that diabetes results from the failure of a special internal function of the pancreas and that it is not due to nerve lesions or to the absence of its digestive secretion.

In certain pathologic conditions of the liver, the pancreas being without demonstrable lesions, diabetes of a moderately severe grade may appear. Glycosuria and diabetes have been found in various neuropathic conditions, but it is not proven that the influence of the central nervous system on the carbohydrate metabolism could produce this result. There is not evidence to support the theory of a renal form of diabetes.

From these facts we learn that the symptom-complex of diabetes is

dependent on no one primary set of functional and anatomical conditions. Nervous influence is essential, but is probably no more than the ordinary trophic control. The carbo-hydrate control resides in certain somatic cells contained in the pancreas and liver, perhaps in other organs, the integrity of these cells insures physiologic metabolism; pathologic conditions disturb the control, and transient glycosuria or persistent diabetes is the result.

THE SURGICAL TREATMENT OF CIRRHOSIS OF THE LIVER.

THIS subject is discussed in the *Medical Press and Circular*, January 8th, 1902, in a lecture by Wm. Murrell. The treatment of cirrhosis and the accompanying ascites by the ordinary palliative measures is unsatisfactory; the operative treatment by establishing a direct communication between the portal and systemic circulations is mere hopeful.

The operation has been performed occasionally since 1888, but it is owing to Drummond and Morrison, of Newcastle-on-Tyne, that it has been put on a firm scientific basis. Briefly the technique is as follows. When ascites is present, an opening is made in the median line through which the ascitic fluid is allowed to drain away; another opening is made above the umbilicus through which the liver spleen and adjacent organs are examined. If there be no malignant disease a portion of the omentum is attached to the anterior abdominal wall, and in some cases it is found desirable to scratch the surface of the liver and spleen in order to afford additional channels of communication between the portal and systemic circulation. The accumulation of fluid in the abdominal cavity is prevented, or at all events, retarded and the patient's life prolonged.

Operators should reject cases where the symptoms are due to malignant disease, alcoholic subjects are notoriously bad for operation, syphilitic cases should receive anti-syphilitic treatment; the best results would be obtained in the pre-ascitic stage, when the diagnosis rests on the history with haematemesis and enlargement of the liver and spleen.

BANTI'S DISEASE.

THE *Medical Press*, London, in the issue of January 8th, has an editorial on this disease in which it is suggested that its supposed rarity is really the result of failure in diagnosis. The malady is usually known as splenic anaemia, and the peculiar associated features are enlargement of the spleen and liver with profound anaemia. The most characteristic thing in the physical condition likely to attract attention

is the ascites due to the secondary cirrhosis of the liver; sometimes there is persistent elevation of the temperature, at times symptoms resembling those of haemophilia may be a feature. The condition of the spleen is regarded by some as primary, with a resulting cachexia. The disease is not due to malaria, syphilis or alcohol, it may be due to any undiscovered blood parasite. It is most usually confounded with cirrhosis of the liver, and has also to be distinguished from splenic leukaemia, pernicious anaemia, the cachexia of malignant disease, etc. The prognosis is bad, both with regard to the duration of life and the prospect of recovery, though the new operation to make a parieto-omental anastomosis may be of value in the treatment.

THE APPLICATION OF PHYSICAL SCIENCE TO THE SURGERY OF DISEASES OF THE NOSE AND THROAT.

THE December number of the London Journal of Laryngology, Rhinology and Otology contains the Presidential address delivered by John Macintyre M. B. C. M. F. R. S. E. before the British Laryngological Association, Nov. 8th., on the above subject. An interesting resumé is given of the writer's work with electricity in treatment of diseases of the skin and upper air passages. Referring to the recent remarkable results achieved in the application of electric light in cases of lupus, rodent ulcer, and other forms of skin disease, he points out that the effect of the use of the Crook's tube may be due to three sources, viz., X rays, heat waves and electrical discharges about the tube. Of these the second is discarded, while from experiment the writer believes that the last is at least, to some extent, the active therapeutical agent. A patient was treated for rodent ulcer with a Crook's tube so arranged by means of a fluorescent screen, that no X rays could be detected, and after daily treatment for three weeks the ulcer had healed. While the patient was being treated, if one drew the finger along the skin, a brush discharge could be distinctly felt. If then, the current derived from the electric field about the tube is the essential agency, the same result may be produced by the static machine so arranged as to give a current of high potential, without sparkling, the choice of the negative or positive poles, the former being less painful; and, lastly, absolute control of the currents. In working with the static machine the patient is seated on a chair placed on a table insulated by glass legs. Contact is made with the table by means of a metal conductor from the negative pole, and a wire from the positive terminal is led to the electrode. The bluish brush-like discharge suggests a force of great potential rushing towards the patient; it is

accompanied by a hissing sound but if there be no sparkling there is no pain, although the patient feels stimulated as if a cool breeze were playing on the part. The explanation of what affects the patient is two-fold, the electrical discharge, and the bombardment with millions of particles of air which set up innumerable oscillations in the patient's tissues.

Clinically, it may be of some interest to record the general facts to be observed during treatment. The patient experiences nothing beyond an exhilarating general affect ; no pain is felt unless a spark should pass to the patient. Healing, as a rule progresses rapidly ; granulations form in the parts until they have reached the proper level, after which epithelial structures cover the parts. The effect is not limited to the part directly exposed, the action often extending to diseased structures at a distance ; and this suggests the possibility of this method being useful in the treatment of affections of deeper tissues as the larynx and lungs.

Dr. Macintyre has had excellent results in the application of these currents to the cure of diseased tissues in the nasal, pharyngeal, and other cavities. Three cases of lupus are recorded as examples ; in the first, a girl of seven, disease of three years standing, involving the nostrils and naso-pharynx was cured in two months time ; in the second, a young lady of twenty-eight, lupus of the pharynx and naso-pharynx of ten years standing was cured in three months and a half, and in this case the static machine was found more useful than the X ray. The third was a more serious case, a woman of fifty-eight, in whom both nasal cavities, the gums, floor of the mouth, sides of the tongue, and the anterior third of the palate were all affected. With two months treatment a great improvement was noted, half of the diseased structure being gone. A case of tuberculous ulceration of the epiglottis showing great improvement under treatment, and a tuberculous tumor of the nasal septum was cured.

The writer does not attempt to explain the way in which the current brings about its curative effects, there have been suggested a chemical, electrical, microbicidal, and stimulating action ; but which if any of these theories is correct remains to be decided.

ULCERATIVE ENDOCARDITIS WITH RECOVERY.

WHITEHEAD and Syers of Cambridge report a case of ulcerative endocarditis with recovery in the British Medical Journal of Nov. 2nd. The patient was a man of thirty-five, with previous history good. The disease set in with earache, chill, and urine dark and laden with

detritus, the temperature went up to 103° and a distinct aortic systolic murmur appeared. In a week rigors set in, a swelling appeared in the patotid region, and the temperature began to present the unmistakable signs of septicaemia, varying from 96° to 105°. Oedema of the lungs set in, and a purulent discharge from the mouth appeared, while the patient became greatly debilitated. In two weeks the patient was much weaker the pulse was irregular and weak, and there was pleuritic effusion in the thoracic cavity with loud precordial friction rub and pleuro-pericardial involvement. This went on for four weeks, when a distinct change occurred; the temperature became normal and the patient fully quite well, though the systolic murmur remained. The treatment was stimulating and supporting; sodium sulphocarbolate was given in 15 gr. doses every four hours, and there was a marked improvement dating from the adoption of this treatment, such that the reporters of the case believe that the success may in some measure be traced to the use of this drug.

AN OPPORTUNITY FOR A NEW FAD.

LE PROGRESS MEDICAL quotes from "The Cycle Trader," a London journal, a paragraph descriptive of a new and rather startling use of the automobile.

"A physician endowed with a special penchant for the 'auto' has written to The Times to call attention to the fact that riding in an automobile at a speed much higher than the restrictions of the law permit, affords a means of combating pulmonary tuberculosis. He says that the beneficial effects obtained by a ride at a speed of 80 kilos were very striking. In addition to a feeling of exhilaration, an increase of appetite and improvement in sleep, it produced a healthy warmth which, after a treatment of some hours, tended to become constant, while the tendency to cough was diminished."

THE CURE OF CHRONIC BRIGHT'S DISEASE BY OPERATION.

THE *Medical Record* for December 21st, 1901, contains an interesting article on the above subject by George M. Edebohls, A. M., M.D., in which he describes the method and results of nephropexy or decapsulation of the kidney for the relief of the symptoms arising from chronic Bright's disease. The writer divides all cases of chronic Bright's disease into three classes, interstitial nephritis, in which the gross evidences of inflammation of the connective tissue predominate; parenchymatous nephritis, those in which involvement of the secretory apparatus forms the salient feature; and diffuse nephritis, those inflammations of the

kidney characterized by implication in fairly equal degree, of both the parenchyma and the connective tissue of the organ. Of eighteen cases of Bright's disease operated on by the author, five had right chronic interstitial nephritis, four had left chronic interstitial nephritis, four had right and left chronic interstitial nephritis, two had right and left chronic parenchymatous nephritis, three had right and left diffuse nephritis. The fact that chronic Bright's disease may be unilateral in one half or nearly one half of a series of eighteen cases is rather a matter of surprise, especially as the cases examined in the post-mortem room as a rule show bilateral involvement; but, as the writer points out, this may explain why the disease is often present without occasioning much disturbance of health; while there is an apparent tendency in unilateral cases for the other kidney finally to become affected.

The diagnosis in the cases described was made on the chemical and microscopical examination of the urine, and on the previous history of the patients; in the case of some this extended over several years. The delivery of the kidney during operation permitted the surgeon to support the diagnosis by demonstrating to those present the visible changes produced by the disease, *e.g.*, the adherent capsule, nodulation, granular condition of the subcapsular surface, shrinking, unequal contraction, and occasional cyst formation, in chronic interstitial nephritis; the enlargement, cloudy swelling, mottling, and discolorations due to circulatory and degenerative changes, of chronic parenchymatous nephritis; the thickening, general or localised, of the capsule proper of the kidney, and the secondary inflammatory changes in the perirenal fat, common to both varieties of chronic Bright's disease.

Briefly, the *modus operandi* of excision of the renal capsule is as follows:—The patient is placed prone on the table with the abdomen supported, in such a way as to render both kidneys accessible; an incision is carried from the twelfth rib to the crest of the ilium along the outer margin of the erector spinæ, the fibres of the latissimus dorsi are bluntly separated, the ilio hypogastric nerve is drawn aside to avoid injury and division of the transversalis fascia exposes the perirenal fat. The fatty capsule is bluntly separated everywhere from the capsule proper and the kidney is, if possible, delivered through the wound. The capsule is divided on a director along the entire length of the convex external border of the kidney, and each half is stripped from the surface and reflected toward the pelvis, care being taken to avoid detaching parts of the kidney substance which is at times extremely friable, the capsule is then cut away entirely and the kidney dropped back into place. Drainage is dispensed with unless the parts are extremely œdematous.

As to the results, they may be best appreciated from the considera-

tion of a typical case, and we will choose one which was referred to Dr Edebohl by two well-known Canadian doctors, Dr. T. W. Vardon, of Galt, and Dr. H. Howitt, of Guelph, the operation having been performed in the Galt Hospital on October 17th, 1901

Mrs. M. S., aged 33, mother of one child, albumen first discovered in the urine in 1896; patient of Dr. Vardon; during and since pregnancy in 1899 she has suffered from Bright's disease. On September 20th, Dr. Howitt, in consultation, advised operation on the lines described, as other treatment had proved unavailing. General condition was as follows: Patient passes about 10 ounces of urine per day, sp. gr. 1020, albumen 50 to 70 per cent., casts abundant, dropsy of the abdomen and lower extremities, pulse 120 soft and compressible, temperature about 100 degrees, face puffed and lungs water-logged so that she could not breathe in a recumbent posture.

Ether was administered and decapsulation of both kidneys performed, all the characteristics of far-advanced chronic parenchymatous nephritis or large white kidney being found. For a few days after operation her condition was critical, but after the fifth day improvement was seen in all the symptoms; the daily amount of urine for the first ten days was between two and fifteen ounces, but from the tenth day on the amount steadily increased, until it reached forty-four ounces on the twentieth day and fifty-five on the thirty-sixth day after the operation. By the first of December the general dropsy and the pulmonary oedema had entirely disappeared and the patient was quite comfortable; the subsequent history is not known.*

The author gives the results of a number of cases in the following table:

Case number	1	4	5	6	7	8	11	12
Known existence of disease prior to operation in months	12	..	72	..	2	..	..	..
Final disappearance of albumen and casts, months	2	4	12	1	5	4	..	2
Period of observation from operation to last examination of urine.	100	70	55	45	33	31	12	12

The writer points out that it takes about ten days for the beneficial effects as manifested in the increased flow of urine to appear, so that success cannot be looked for in such cases as are too far advanced to bear this strain.

The explanation of the improvement due to operation in these cases is to be found in the hyperaemisation of the kidney that is brought about through the growth of large and numerous blood vessels into the kidney substance, through the connective tissue adhesions which rapidly

* Patient has since died.

form. "The increased and adequately maintained blood supply to the kidney established by the operation leads, most probably, to gradual absorption of the interstitial or intertubular inflammatory products and exudates, thus freeing the tubules and glomeruli from external compression constriction, and distortion, and permitting the re-establishment in them of a normal circulation; the result of this improved circulation in and between the tubules and the glomeruli is the regenerative production of new epithelium capable of carrying on the secretory function." The denuded kidney and the fatty capsule are both amply provided with blood vessels; the removal of the fibrous capsule permits them to come together, and we have the increased circulation necessary to enable the kidney to take up again its function.

(We learn that this operation has already been performed by several Canadian surgeons; but the results have not been published.—ED.)

THE TREATMENT OF LUPUS BY FINSSEN'S LIGHT METHOD.

IN the section of Dermatology of the recent British Medical Association an interesting discussion took place on the treatment of lupus vulgaris by Finsen's light method, initiated by a paper read by Malcolm Morris. The apparatus he used was identical with Finsen's but he found a current of 70 ampères and 60 volts sufficiently strong. The manner in which the light rays produce their remedial effect is briefly: The application of the light is followed by inflammatory reaction with hyperæmia and redness; a bleb forms, breaks and dries in about a week into a thick yellow crust; healing is complete in about a fortnight. In lax tissues there is considerable swelling. The intensity of the reaction varies with the thickness of the skin, being less where the skin is thick or markedly pigmented. Treatment, though not painful, is followed by a smarting sensation, but there is no constitutional disturbance.

Where large areas are involved there is serious difficulty as only a small spot can be treated at a time and the increase of the disease may not be controlled; the treatment cannot be applied to disease of the mucous membranes, and previous treatment especially if followed by thickening or scarring, renders it less successful. The absolute passivity of the patient during a treatment necessarily prolonged and requiring frequently repetition for months or years makes it difficult to follow out.

Dr. Sequeira, Dermatological assistant to the London Hospital, said that in 200 cases of lupus under treatment, improvement was seen in every one. In two instances of recent disease two applications had produced a complete cure; while in other and more extensive cases, two, or even three hundred sittings had been required. He quoted the latest statistics from Finsen's clinic, showing that over one hundred and thirty cases were free from recurrence, after from one to five years. A. J. M.

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EDITORIAL.

BANK BILLS AND INFECTION.

THE lay press recently reported the death of a banker and his wife from smallpox, the infection having been received from handling infected bank bills. That this is a frequent means of transmitting the disease no one can doubt, and in their search for means of controlling the spread of infectious diseases it is strange that the authorities have not given this matter more attention. Banks make large profits from issuing paper money, and in return for this the public have a right to expect the bills to be clean. The Bank of England never allows notes to go out a second time. No matter how clean and crisp they may appear, they are destroyed. In this country the filthy paper money is a common matter for comment among travellers from abroad, where more sanitary methods prevail. If old, dirty, ragged bills must be tolerated, let the health authorities at least insist on some efficient method of disinfection being adopted.

THE IMPORTANCE OF SMALL WOUNDS.

THE death of at least three prominent Canadian surgeons during the past few years as the result of trifling wounds received while operating is a matter deserving serious consideration. Dr. Laughlin McFarlane, of Toronto, Dr. Fenwick, of Kingston and recently Dr. Lesslie Sweetnam of Toronto, with apparently long years of usefulness in their profession ahead of them, died from septic wounds, and the number of others who have narrowly escaped a similar fate is well known. Does the frequent exposure to danger of surgeons, pathologists and others beget carelessness in reference to slight punctures or abrasions? Is it sufficiently borne in mind that with advancing years the resisting power of the organism is progressively lessened, so that infections easily rendered abortive by the vital forces in the vigorous period of early life, produce much more serious or even fatal results in later years. This is more especially true if the natural resistance has been further reduced by the development of interstitial nephritis or some other chronic disease.

The most dangerous inoculation appears to be through the small puncture that does not bleed. In an incised wound or a puncture that bleeds freely, the organisms are washed out or are exposed to the germicidal action of the escaping blood. Moreover, larger wounds are more easily reached by disinfectants. The application of caustics or other disinfectants to small punctured wounds appears to be of little use and efficient treatment is deferred until the infection has become generalized and beyond our control. The necessity for greater vigilance in avoiding infection and more efficient methods of immediate treatment than we have at present, are very apparent.

With the frequent occurrence of fatal infections from small wounds so familiar to the medical profession it is rather surprising to read in a recent very excellent publication that in puncturing to obtain a specimen of blood for examination, disinfection of the part is not necessary. The author quotes a large number of cases in which he has followed this procedure with no ill results, but certainly his good fortune can be attributed to the happy absence of sufficiently virulent bacteria on the part punctured, rather than to any virtue in his technique. One is going unnecessarily and dangerously afield to advocate methods so much at variance with scientific knowledge at the present time.

SURGICAL TREATMENT OF RENAL TENSION.

WHEN surgical treatment was shown to be serviceable in some cases of cirrhosis of the liver, it was generally supposed that the limits of encroachment of the surgeon on the special domains of the physician had nearly been reached. But evidently such is not the case. Mr. Reginald Harrison, before the surgical section of the British Medical Association, in a most interesting paper, has shown that some cases of persistent albuminuria and hæmaturia, with lumbar pain and other symptoms suggestive of renal calculus, have improved or completely recovered after exploratory puncture or incision of the kidney where no calculus was found. Such instances of cure in cases of operation where a mistaken diagnosis of stone had been made, have probably come under the notice of most experienced surgeons, who have been thankful to accept such unexpected rewards for their mistakes, but have made no attempt to explain just how the operation produced the cure, or to formulate rules that would serve as a guide in applying their experience to the management of future cases.

Harrison believes the good effects are due to the relief of renal tension and congestion by the incision of the capsule of the kidney and

subsequent drainage, which allows the disordered circulation to re-establish itself. He points out the relationship of intra ocular tension to diseases of the eye, and the relief of glaucoma by iridectomy, and suggests that "renal glaucoma" would not be an inappropriate term to apply to these cases of increased tension in the kidneys. Similarly, puncture or incision of the tunica albuginea affords immediate relief in cases of acute orchitis.

One of the most important points in reference to renal tension is that, while in itself it may result from the toxins of scarlet fever, diphtheria, and other irritants, cold, exposure, etc., it in turn acts as a cause of further pathological changes in the kidneys by producing injury to the renal epithelium, haemorrhage into the tubules or tissues, or small extravasations of the urine itself into the stroma of the organs, thus actually initiating an interstitial nephritis.

The therapeutic measures in the hands of physicians to influence or control cases of Bright's disease are so hopelessly inefficient in many cases that all will welcome the use of any measures that promise better results. In cases of ordinary scarlatinal nephritis or other forms making satisfactory progress towards recovery, operation is manifestly not indicated. Where, however, the albuminuria and other symptoms persist beyond the time when improvement should be taking place, and especially if consecutive heart changes are making their appearance, Harrison thinks reni-puncture or incision should be resorted to. In cases of complete suppression of the urine from intense congestion or inflammation, surgical measures, he thinks, offer the only chance of relief.

Mr. Harrison's views are worthy of the most careful consideration, and important results may confidently be looked for in an unexpected field. The limits of applicability of the surgical measures mentioned can only be fixed by future clinical observation. Very few details as to the indications furnished by analysis of the urine are forthcoming, and these certainly should be capable of giving information of great importance.

Mr. Harrison anticipates one objection likely to cast doubt on too sanguine expectations from the operation, viz.: How can incision into one kidney produce a cure in conditions that are bilateral or systemic? He thinks that the relief afforded on one side takes the strain of the other kidney sufficiently to give it a chance to recover its circulatory balance.

With Mr. Harrison, no doubt long clinical observation in this direction enables him to select cases where most brilliant results may be attained, but much care is necessary before the profession in general begin to apply this method of treatment. With the lust for operation

at present existing with some surgeons, and among the laity, it is to be hoped that wholesale and indiscriminate operation for all sorts and conditions of renal disease may not bring discredit on measures that give promise of relief in some conditions formerly beyond our control.

THE LIMITATIONS OF HOMOEOPATHY.

THE publication of an article in the November issue of *The Hahnemannian Monthly* by Dr. B. O. Morse, dealing with the limitations of homœopathy, pointing out the absurdity of many of the exclusive tenets of that faith, and making a plea for a more liberal and progressive spirit in interpreting and applying the "law of similars," is a significant and healthful sign of the times. The whole tone of the article is honest, liberal and courageous, and shows a pretty keen appreciation of the weaknesses of the homœopathic system, and a desire to get more in line with the advance of modern scientific medicine. There is sufficient latitude within the regular profession to allow the exercise of individual opinion, so long as no exclusive dogma is set up as a guide in matters of treatment. With the opinions held by the writer of the article in question, and the moderate claims he makes of the applicability of the "law of similars," there would seem little reason why he should style himself a homœopath and thus imply an antagonism to the teachings of modern scientific medicine which his own statements do not warrant. He instances the inefficiency of homœopathic remedies in the dropsy of cardiac disease, and advocates the use of elaterium, jaborandi, digitalis, and strophanthus in *physiological* doses; advises *enormous* doses of quinine in certain cases of malaria, and the treatment of syphilis by mercury. Homœopathic measures are only to be applied to clear up the debris after the storm is over, or, in other words, the cause of the disease having been removed or counteracted by other means, and the patient put in the way of recovery, the "indicated" remedy may be resorted to. Could the doctor only have gone a step further and seen that, the cause being removed and the storm over, nature would complete the cure, his conversion would have been complete.

Homœopathy has done service in showing us the curative power of nature unaided by medication. Unfortunately, the followers of Hahnemann attribute to their harmless remedies the cures she brings about. We cannot do better than quote Dr. Morse's closing paragraph, and commend it, as he does, to the honest consideration of homœopaths, only offering a substitute for the last phrase:

"I leave this question to be solved in the private closet of your

conscience, where you sometimes retire when the 'indicated' remedy has failed and you are groping about in the dark, 'twixt humiliation and despair, for something to help you out of the dilemma. Is it not more honest in you, fairer to homœopathy and your patient, to seek a logical reason for your failure, and by mechanical, surgical, chemical, or means what not, to prepare him for (the *vis medicatrix nature* to produce the cure) homœopathic medication?"

EDITORIAL NOTES.

G. B. Burland, Esq., of Montreal, has generously offered to be one of ten to subscribe \$200,000 for the erection of a new building for the Montreal Western Hospital, with a capacity of 100 beds.

The new Royal Alexandria Hospital in Fergus, Ont., was opened on January 13th. Many of the private wards have been furnished by prominent citizens of the County of Wellington and by local societies.

Grace Hospital, Toronto, which some two years ago was changed from a homœopathic to a general hospital, is asking for a change in the Act of incorporation of the institution which will allow the Board of Governors to be increased to eight members.

A deputation of prominent citizens of Selkirk recently waited on the Manitoba Government, asking for an appropriation for building an addition to the asylum in that place. The asylum now has 178 patients which overtakes its capacity. The new wing will cost \$15,000.

During the past year there have been 1,900 cases of smallpox in Ontario. Of this number some 700 cases occurred in Algoma and Nipissing districts, 237 in Carleton Co., 165 in Kent, 125 in Brant, 60 in Simcoe, 52 in Russell, 30 in Renfrew and 19 in Wentworth. Twelve deaths occurred.

The following gentlemen have been appointed to positions in the teaching staff of the University of Toronto Medical Faculty: Dr. W. H. Piersol, B. A., to be instructor in biology and histology; Dr. S. H. Westman, to be laboratory assistant in histology; Dr. R. E. Hooper, Dr. J. A. Roberts, Dr. W. J. McCollum and A. K. Adams, B. A. to be class assistants in histology.

A deputation from the Medical Defence Association of the College of Physicians and Surgeons, of Ontario, recently waited on the Premier asking for legislation at the coming session of the provincial legislature to do away with the representation of the educational institutions and

the Homœopathic practitioner on the Medical Council. They were assured that the matter would be taken into his serious consideration. A Bill has been introduced to make provision for the change.

In the death of Walter S. Lee, Esq. Toronto has lost one of her most public spirited citizens. Mr. Lee was well known to the medical profession and took a deep interest in the medical charities of the city, having been chairman of the Board of Trustees of the Toronto General Hospital for many years. His fatal illness followed on his attendance at the funeral of the late Dr. Sweetnam. The position on the hospital board rendered vacant by Mr. Lee's death has been filled by the appointment of J. W. Flavelle, Esq. The selection of Mr. Flavelle is a most happy one for in honor, enterprise, energy, ability and public spirit he represents the best type in Canadian public life.

A jury in the Supreme Court of New York rendered a verdict for \$6,639.65 in favor of Professor Rudolph Witthaus, the eminent chemist, for services rendered by him in analyzing the stomach of Henry Barnett, in the famous Molineux murder case. The items of the bill showed that Dr. Witthaus spent 366 hours making the analysis, for which he charged \$15 an hour, with \$250 for consultations, and \$500 for incidentals. The verdict rendered included \$459.65 interest on the account. We would respectfully commend this verdict to the consideration of the officials of our local government and others having to do with medico legal work. In Ontario, \$5 is the magnificent fee for performing an autopsy.

Dr. Laphorn Smith of Montreal has received a letter from Professor Pestalozza of Florence on behalf of the Committee of Organization of the Fourth International Congress of Gynecology, begging him to announce to the profession of Canada that the congress will meet in Rome from the 15th to the 21st of September of this year. The subjects chosen for discussion are: (1) The medical indications for the induction of labor; (2) genital tuberculosis; (3) hysterectomy in puerperal septicaemia; (4) inflammatory changes in the neck of the uterus; (5) The surgical treatment of cancer of the uterus. It is the earnest wish of the committee to have a large attendance of gynecologists and obstetricians from Canada.

The general committee of the Woman's College Hospital in Toronto, recently met at the residence of Hon. Geo. A. Cox. In the opinion of those interested in the matter, there is an urgent need for such an institution, and a vigorous campaign in quest of the necessary funds is being prosecuted. To the outsider the necessity for another medical charity of this kind in Toronto is by no means so apparent and we believe the

opinion generally prevails that the money might better be devoted to the support of existing institutions. Ample facilities for the education of women physicians should be afforded in the various hospitals already established and further multiplication will work injury to the city as a centre for clinical study.

Lord Hopetoun, Governor-General of Australia, is reported as taking a hand in the crusade against tuberculosis. His Excellency's point of attack is the long skirts worn by ladies, which he thinks, and physicians will agree with him, are a means of spreading the disease. Speaking at a meeting to consider the question of prevention of tuberculosis, he tactfully expressed himself as follows: "For two years before coming to Australia I had the honor to be Lord Chamberlain to her late Majesty's household, and one of my duties was to see that public propriety was not offended either by shortness or the scantiness of skirts worn by ladies upon the stage. It seems now that time is having its revenge, for I find myself making a humble appeal to my fair friends to curtail the length of their skirts, even though it be by only a little, and to leave the cleansing of the streets to the municipal authorities."

A new gynaecological operating room is to be provided for the Royal Victoria Hospital in Montreal, and the present operating theatre is to be remodelled. The income of this hospital during the past year was \$130,000, and the expenditure \$112,000. In January, 1901, there were 194 patients in the hospital remaining from 1900, and during the year 2,000 have been discharged, of whom 1,583 were well, 792 improved, 50 unimproved, 51 not treated, 115 died, and 173 remained December 31. Of the 115 deaths 23 took place within forty-eight hours of admission. The death rate for the year has been 4.42 per cent., or, if those dying within forty-eight hours after admission be deducted, 3.54 per cent. In the out-patient department the total number of patients treated was 3,601; the number of visits of these patients aggregated 18,906; medical, 8,389; surgical, 4,383; eye and ear, 3,062; nose and throat, 1,88; diseases of women, 1,134. The following changes in the staff were made:—Dr. A. G. Nicholls, assistant pathologist; Dr. G. P. Girwood, director of the medical electrical department of the hospital; Clinical assistants in medicine, Drs. H. B. Cushing and F. M. Fry; Clinical assistants in neurology, Drs. A. Shirres and A. A. Robertson; Clinical assistant in surgery, Dr. E. A. Archibald; Clinical assistant in ophthalmology, Dr. F. W. Harvey; Clinical assistant in laryngology, Dr. W. H. Jamieson; Assistant in bacteriology, Dr. H. B. Yates; Director of the clinical laboratory, D. A. A. Bruere; Medical registrar, Dr. H. B. Cushing.

CORRESPONDENCE.

The editor does not endorse nor hold himself responsible for the opinions expressed by correspondents

To the Editor of THE CANADA LANCET:

It will be of benefit to publish in THE LANCET a rebuttal of certain remarks that recently appeared in a Toronto medical periodical concerning my proposition that the interests of the medical profession call for immediate remedy to the deficiency at Toronto of post-graduate courses of medical instruction by the inauguration of such courses in one of the medical colleges, or in an independent medical polyclinic institution. The editorial article in question speaking, apparently, by authority, makes the surprising assertion that the Toronto Medical College has been giving post-graduate instruction to some extent. It goes on to announce that at some future period that college will give more such instruction, but at the same time minimizes the value of the promise, by saying the undergraduate requirements for clinical material will leave but little for post-graduate use. Accordingly, efficient post-graduate culture can not be expected in Toronto Medical College.

The gist of the article is harmful, in that it is misleading with regard to the curriculum of that college, and because it is calculated to hinder any other medical institution from moving in the direction of providing post-graduate courses or the establishment of a separate polyclinic institution for graduates only.

The following testimony gives the actual status of the Toronto Medical College as a seat of post-graduate study and the facts about want of clinical material for post-graduate use. At the close of an article over his own signature in a recent issue of the same periodical, Dr. A. H. Wright, a leading professor in that college and unimpeachable authority, uses the following language: "We have been talking for some years about post-graduate courses. We have plenty of teaching ability, and a fair amount of clinical material at our disposal. How would it do to stop talking and go to work?" This remark has one meaning only and is conclusive. There are no post-graduate courses in his college and there is satisfactory clinical material for such courses if they existed. The annual announcements of this institution, the year 1901-02, inclusive, afford corroborative negative evidence regarding post-graduate instruction. They show entire absence of information about post-graduate courses in the curriculum, when and where given, and what features comprising. Such information in fact as should be given of actual *bona fide* graduate courses and which appears in the annual announcements of medical institutions elsewhere that provide genuine post-graduate courses of study.

I have in my possession for reference, the annual announcements for the last ten years of the Toronto Medical Colleges and various medical institutions in the United States that provide post-graduate instruction. The post-graduate attendance lists of those foreign institutions contain an immense number of Canadian physicians, the major part coming from Ontario. The Toronto college announcements are destitute of such lists. I have no means of knowing the number of Canadian physicians visiting Europe for post-graduate culture during that time, but it must be considerable.

Had Toronto been a polyclinic medical centre of high repute as it ought, far the major portion of the outflow of Canadian doctors to foreign post-graduate institutions would have been an inflow to Toronto, augmented by large numbers desiring to take post-graduate courses but unable to attend far distant foreign polyclinics. All the physicians I have met endorse my views about the importance of making Toronto a leading polyclinic medical centre without delay.

LUCIUS S. OILLE.

ST. CATHARINES, January 14th, 1902.

To the Editor of THE CANADA LANCET :

Through the columns of the LANCET I wish to suggest that the public institutions for the insane be known as mental hospitals instead of asylums.

No doubt when those institutions were first established and they were places of refuge, asylum was the more correct name. But now, thanks to the untiring efforts of the physicians in charge, they have really become hospitals for a special work.

Besides, the name asylum is odious to the laity, and instead of sending their friends to an asylum for treatment in the early stage of the malady when it is most amenable to treatment, there is a great tendency to conceal the fact until, in many cases, all hope of recovery is gone.

If you propose to the ordinary insane person that he go quietly to the asylum or that he go out quietly and be lynched, the chances are ten to one he would prefer the latter ; and as a result the insane are generally got to go to an asylum by deception—a practice which I know some physicians in charge of asylums warn against as often doing harm to the patient.

M. SUTTON, M. D.

COOKSVILLE, Nov. 22nd, 1901.

To the Editor of THE CANADA LANCET :

Your editorial, "An Important Decision," in the Nov. number of THE CANADA LANCET is much to the point. The public wards of some

hospitals are taken advantage of by a certain class of people for cheap treatment. I have heard the remark expressed by patients who had been told their case would require several weeks' treatment or a certain operation required, that "in that case it would be cheaper to go to a hospital." These people know well that for forty cents a day they can get no adequate treatment or any surgical operation performed. This class either cheat their local medical attendants or the hospital staff out of their just dues.

Nearly all patients entering a hospital from a distance are advised by their local medical attendants to do so, and therefore if all hospitals required a certificate from the previous medical attendant stating how much, if any, the patient was able to pay for medical attendance, this class of patients would be ashamed to admit they were entering a hospital as charity patients

Only some united action on the part of the medical profession will stop this hospital abuse.

Yours, etc.,

BOBCAYGEON, Nov. 25th, 1901.

H. O. BOYD.

PERSONAL.

Dr. Keith, formerly of Mount Pleasant, Ont., has removed to Omemee.

Dr. Fatharn, formerly of Pinkerton, Bruce Co., has removed to Cargill.

Dr. D. T. Crawford, late of Wallaceburg, N. W. T., has located at Innisfall, Alberta.

Dr. Ferguson of Tilbury, Ont., has been elected chairman of the school board.

Dr. D. H. Platt of Picton, Ont., has left for New Mexico, where he will spend a few months.

Dr. James McLurg of Sault Ste. Marie has been appointed associate Coroner for Algoma district.

Dr. H. S. Beland, Liberal, was elected by acclamation to the Commons for Beauce Co., Que.

Dr. J. W. Wickware of Birtle, Man., was recently married to a young lady from St. Thomas, Ont.

Dr. G. Carlton Jones of Halifax, has been granted a year's absence from his duties as port physician.

Dr. J. Ferguson of London, a graduate of the Western University, has taken up practice at Pinkerton, Bruce Co.

Dr. C. A. Sippi, bursar at the London Asylum, is confined to his home with an attack of pleurisy.

Dr. F. C. Delahey of Pembroke has recovered from his recent attack of typhoid fever and has resumed practice.

Dr. Hamilton, Medical Health Officer of Cornwall, has contracted smallpox while discharging the duties of his office.

Dr. McCully of Moncton, N. B., has removed to St. John, where he will devote himself to eye, ear, nose and throat work.

Dr. Ruddock of St. Martins, N.B., has been elected representative of St. Johns Co. in the local legislature by acclamation.

Dr. Burrows, of Marlbank, Ont., has recovered from his recent attack of diphtheria and is able to attend to his practice as usual.

Dr. J. M. Dunsmore has been appointed medical examiner for the People's Life Insurance Company for Halton Co. and vicinity.

The late Miss Catherine Morrison of Toronto left \$2,000 to endow "McGregor Cot" in the Hospital for Sick Children.

Dr. Fortier, physician to the St. Vincent de Paul penitentiary, died on January 9th after an illness of six weeks. The deceased was 69 years of age.

Dr. O. J. McCallum of Sydney, C.B., who was recently married, has left with his bride for New York, where the doctor will spend a time on post-graduate work.

Dr. C. C. Lumley, of St. Thomas, who underwent an operation for tubercular appendicitis on Dec. 3rd, is slowly improving at the Western Hospital, Toronto.

Dr. G. A. Schmidt, late house surgeon in the Toronto General Hospital, has left for London and Vienna, where he intends spending a year in post-graduate work.

The board of the John McKellar Memorial Hospital at Fort William, Ont., have decided to erect a new building to afford accommodation for the growing needs of the institution.

Dr. J. G. Roddick of Montreal has been elected Dean of the Medical Faculty of McGill University in place of Dr. Craik. The latter has been appointed one of the governors of McGill University.

Dr. O. Grain, M. P. P., of Selkirk, has decided to make his home in Winnipeg in future. He has taken offices in Fould's block, and will commence practicing there at once.

Dr. A. A. Henderson of Ottawa left recently for a trip south for the benefit of his health. The doctor, who was accompanied by his wife, expects to return to resume his practice in April next.

Dr. Helen MacMurchy, who has been on the staff of house surgeons at the Toronto General Hospital for the past six months, has gone to Philadelphia to spend some time among the hospitals of that city.

Dr. Langrill, of Hamilton, who went to Australia with Hon. Dr. Montague, has returned home. Since leaving Australia he has been in South Africa, South America, and England.

Dr. Mallory, Delta, has left on a trip to Florida, where he will spend a few weeks and then return to New York and take a post graduate course in that city. He expects to resume practice in March.

Dr. A. I. Hobbs, formerly of the medical staff of the Asylum, London, Ont., has taken charge of the "Homewood Retreat" at Guelph. Dr. Hobbs is well known by his work on the gynaecological treatment of the insane.

Dr. Llewellyn Jones, of Victoria, was married in Vancouver on the 15th to Elsie, daughter of R. W. Gordon, of Vancouver, by Rev. H. G. F. Clinton. They left for England to spend their honeymoon. Miss Gordon was until recently head nurse of the Jubilee hospital.

Dr. A. J. A. Macdougall, who for the past year has been house surgeon at the Toronto General Hospital, has gone to Hamilton, Bermuda, where he has been appointed civil medical attache to the British regiment in charge of Boer prisoners.

Dr. Torrance Sparham, one of the oldest practitioners in Brockville, died suddenly on January 11th at the advanced age of 89 years. The deceased was a graduate of McGill College and father of Lt.-Col. Sparham, officer commanding the 41st Regiment.

Dr. N. A. Powell, of College street, Toronto, President of the Ontario Medical Association, entertained Dr. W. H. Drummond, author of "The Habitant" and of "Johnny Corneau," the evening of Jan. 17th. About sixty prominent medical men of the city accepted an invitation to meet Dr. Drummond, and spent a most pleasant evening.

Jonathan Hutchinson, F.R.S., General Secretary of the New Sydenham Society, has requested Messrs. P. Blakiston's Son & Co., of Philadelphia, the American agents of the Society, to announce the publication of "An Atlas of Clinical Medicine, Surgery and Pathology," selected and arranged with the design to afford, in as complete a manner as possible, aids to diagnosis in all departments of practice. It is proposed to complete the work in five years, in fasciculi form, eight to ten plates issued every three months in connection with the regular publications of the Society. The New Sydenham Society was established in 1858, with the object of publishing essays, monographs and translations of works which could not be otherwise issued. The list of publications numbers upwards of 170 volumes of the greatest scientific value. An effort is now being made to increase the membership, in order to extend its work.

BOOK REVIEWS.

OBSERVATIONS ON BLOOD PRESSURE, WITH SPECIAL REFERENCE TO CHLOROFORM

University of Toronto Studies, Physiological Series No. 3, R. D. Rudolf, M.D., Edin.,
M. R. C. P., London. Toronto: The University Library, Published by the Librarian,
1901, 50 pages; in paper, 75 cents.

THIS paper, the third in the series of studies on physiological subjects issued by the Library of the University of Toronto, contains the result of work conducted by the author in the physiological department of the University, during three years previous to publication. We can only give the briefest outline of the method pursued and a summary of the conclusions arrived at.

The experiments were performed on dogs, the Ludwig kymograph was used, and with a few exceptions for special reasons, the canula was inserted in the proximal end of the left common carotid.

Dr. Rudolf first made an investigation of the normal effects of gravity by inverting the animal which was the subject of experiment, while the canula was in position. It was found that while position always affected pressure, yet the lowering of a pole of the body does not raise the arterial pressure in it as much as raising that pole lowers it. The effects of abdominal pressure seems to be due to compression of the aorta, for ordinary pressure such as could be applied by an abdominal bandage had no noticeable effect. While the splanchnic area is the one chiefly concerned in the regulation of blood pressure, nevertheless the vascular tone of the lower part of the body is also of considerable importance.

The next investigation was into the effects of various drugs on the blood pressure. Morphia produced distinct slowing of the pulse, and made the animal go under chloroform more easily and stay unconscious longer. As to chloroform it was found that in all of 52 dogs killed by this drug, the respiration distinctly stopped before the heart. As a rule the more the vapor was concentrated the shorter the time elapsing between the two events, and if the amount of chloroform given was very great, artificial respiration would not save the animal, showing that the heart as well as the respiration was poisoned. If chloroform is given slowly and well diluted but little change in pressure is noticed, but if there is any struggling the pressure rises and as surely falls immediately afterwards.

The reason for the decided fall in blood pressure that follows a considerable dose of chloroform is a disputed question, some claiming that it is due to a direct action on the heart while others say that the vaso-

motor center is primarily affected; probably both factors are to be reckoned with. Generally sudden falls of pressure during the administration of chloroform indicates deep anaesthesia and are a danger signal, but there are cases where a fall occurs with marked slowing of the pulse due to irritation of the vagus by the vapor. The effect of various operations was tried, while the animal was anaesthetised, and no effect on pressure was apparent, showing that chloroform abolishes shock. Asphyxia was produced during anaesthesia by pouring fluid down the throat; pressure fell rapidly when a similar condition was produced by free opening into the pleural cavities pressure was well maintained till respiration stopped.

As a means of combating respiratory failure artificial respiration was found to be the most valuable method, as in addition to keeping up the respiratory tide, it also directly stimulates the circulation and raises the blood pressure, and this is true of the various expedients, *e.g.*, pulling forward the tongue, placing the finger in the throat, etc., which are generally resorted to.

The effect in chloroform poisoning of nitrite of amyl, hydrocyanic acid, and atropine was tried. The first was found to have no appreciable effect in such cases; the second was found to stimulate respiration and pressure, the third was found to lessen the tendency to death from chloroform in dogs, and when danger has occurred to act as a stimulant both of the circulation and the respiration, on the whole it should be a valuable adjunct in such emergencies.

A. J. M.

AMERICAN EDITION OF NOTHNAGEL'S ENCYCLOPEDIA.

TYPHOID AND TYPHUS FEVERS.

Typhoid and Typhus Fevers. By Dr. H. Curschmann of Leipzig. Edited, with additions, by William Osler, M.D., Professor of the Principles and Practice of Medicine, Johns Hopkins University. Handsome octavo of 646 pages, illustrated, including a number of valuable temperature charts and two full-page colored plates. Philadelphia and London. W. B. Saunders & Co., 1901. Cloth, \$5.00 net; Sheep or Half Morocco, \$6.00 net.

THE first volume in English of Nothnagel's Encyclopedia of Practical Medicine dealing with typhoid and typhus fevers is at hand. This system is generally recognized as the most comprehensive and authoritative work on practical medicine that has ever been published, and that this volume is edited by Dr. Wm. Osler is sufficient guarantee to American readers that the American edition does not fall short of the original in excellence. Of the 628 pages in the volume 472 are devoted to typhoid fever.

In editing the volume Dr. Osler has brought his own rich clinical experience of the disease to bear and has made many additions from American sources. It is without doubt the most exhaustive and altogether satisfactory article that has ever appeared on this disease. It is useless to attempt to do justice to the work within the compass of a necessarily short review. If the succeeding volumes maintain the same high standard the system will prove a storehouse of accurate and scientific clinical information that should be at the disposal of every physician. The press-work, as usual with these publishers, is beyond praise.

PROGRESSIVE MEDICINE.

Vol. IV. December, 1901. Lea Bros. & Co., Philadelphia and New York.

ALL that has been said in praise of previous volumes may be repeated of this. It is one of the very best periodical volumes we know, and its advent to the library of the busy man, isolated by work or by distance from his fellows in the profession, should be most welcome. Einhorn has an article on disease of the digestive tract and allied organs; Belfield on genito urinary diseases; Bloodgood on anæsthetics, Fractures, Dislocations, Amputations, Surgery of the Extremities and Orthopædics. Bradford, of University College, London, has a chapter on diseases of the kidney; Brubaker, on Physiology; Baker, of Lansing, Michigan, on Hygiene, and E. Q. Thornton, of Jefferson Medical College, Philadelphia, on excellent modern "Practical Therapeutic Referendum," meaning a reference-list of more modern drugs or of recent investigations as to the action and uses of older ones, such as digitalis, atropine, etc.

J. T. F.

ATLAS AND PRINCIPLES OF BACTERIOLOGY.

LEHMANN & NEUMANN, WURZBURG.

Authorized Translation from Second German Edition. Edited by Geo. H. Weaver, M.D., Assistant Professor of Pathology, Rust Medical College, Chicago. W. B. Saunders & Co., Philadelphia and London. 1901. Vol. I., Atlas. Vol. II., Text.

THIS is another of the remarkably well produced series of Medical Hand Atlases of which the enterprising publishers truly say that for scientific accuracy, pictorial beauty, compactness and cheapness they (the Lehmann Medicinische Hand Atlanten) surpass any similar volumes ever published. A detailed description of these two handy little volumes

upon a subject of such growing importance is impossible within the limits of a book review. Suffice it to say that the merits of the original volumes are such that they have been reproduced in no less than thirteen languages, including Japanese, Roumanian, Bohemian and Hugarian.

J. T. F.

GORHAM'S BACTERIOLOGY.

A Laboratory Course in Bacteriology For the use of Medical, Agricultural, and Industrial Students. By Frederick P. Gorham, A.M., Professor of Biology, Brown University; Bacteriologist to the Health Department, Providence, R. I. 12 mo. volume of 198 pages, with 97 illustrations. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, \$1.25 net. Canadian Agents: J. A. Carveth & Co., Toronto.

THIS recommends itself as a very compendious and lucid work, evidently from the pen of a trained teacher, and both thorough and simple. As the author states in his preface, "This volume has been prepared as a guide to the practical details of laboratory work. It is intended to present the subject in such a general way as to lay a broad foundation for later specialization in any branch of bacteriology. By a judicious selection the course can be made to conform to the requirements of medical, agricultural, or industrial students."

J. T. F.

SOLLMANN'S PHARMACOLOGY.

A Text Book of Pharmacology. Including Therapeutics, Materia Medica, Pharmacy, Prescription-Writing, Toxicology, etc., by Torald Sollmann, M.D., Assistant Professor of Pharmacology and Materia Medica, Western Reserve University, Cleveland, Ohio. Royal octavo volume of 880 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Company, 1901. Cloth, \$3.75 net. Canadian agents, J. A. Carveth & Co., Toronto, Ont.

THIS work aims at introducing into the study of Materia Medica a systematic arrangement based on the results of recent physiological experimentation, especially that devoted to the study of the effects of drugs on animals. The author believes that the principles of treatment will be better appreciated if the action of the various therapeutic agents is understood, and hopes that by the grouping of substances, according to their physiological effects, the labor of studying the subject will be reduced to a considerable extent.

Part I. deals with the preparation and prescribing of medicines, with a chapter on toxicologic analysis. Part II. deals with Materia Medica and Therapeutics: In this division all the various organic and inorganic drugs are grouped and described. Part III. is devoted to an outline of laboratory experimentation, with a description of various chemic and physiologic tests.

The work will be found a valuable text-book, and will simplify and render interesting a subject that has always been a bug-bear of the medical student's course, while the physician and pharmacist will find a useful book of reference, a special feature in this connection being the twenty-one different tables of strengths, doses, etc., with which the work is furnished.

A. J. M.

PUBLISHERS' DEPARTMENT.

Treatment of Nervous Diseases—Dr. Campbell Meyers has recently completed some changes in the treatment room of his Private Hospital for Nervous Diseases at Deer Park, Ont., by which hydrotherapy, so essential to the successful treatment of these diseases, can be fully utilized. A new shower and needle bath with liver spray and a Scotch douche have been added. The temperature and pressure of the water are carefully regulated by special appliances, so that hydrotherapy in all its details may be scientifically applied. The needle bath is arranged with a series of roses, so that its value in treatment is much greater than the ring needle bath in general use. A second clock to measure the exact duration of the treatment is a useful and important feature. Dr. Meyers has also a laboratory equipped with the latest appliances for clinical research. The dispensary is supplied with the purest drugs used in Neurology and is in charge of an experienced Pharmacist. Dr. Meyers, who devotes his entire attention to nervous diseases, spent four years in the chief medical centres of Europe studying these diseases after taking London qualifications. An assistant physician devotes his attention to analytical and electrical work and the nursing is done by a large staff of specially trained nurses. The hospital is surrounded by extensive grounds, shaded by fine old oaks and laid out for golf, tennis, etc. These, together with the other facilities for treatment which this hospital with its surroundings, offers, makes it one of the best medical hospitals in the Dominion.

Antikamnia & Heroin Tablets in Prevalent Grippal Conditions.—Thos. G. Rainey, M.D., L.R.C.P., Resident Physician, British Medical Institute, Atlanta, Ga., in a recent article states, that the comparatively new combination of drugs, antikamnia and heroin tablets, which have been so largely used for the control of cough, is also being successfully employed, to a large extent, in the treatment of nearly all affections of the respiratory tract, which are accompanied by dyspnoea and spasm,

namely: Asthma, Bronchitis, Laryngitis, Pneumonia, Phthisis, Whooping Cough, Hay Fever, La Grippe, etc. In cases in which the patients were suffering from the severe attendant pain of these diseases, it was found that this combination acted most satisfactorily. Each tablet contains five grains of antikamnia and one-twelfth grain heroin hydrochloride. One tablet was followed by a rapid diminution of pain, and after the third tablet the pain entirely disappeared. In treating the affections enumerated above, the dose is one tablet every two, three or four hours according to indication.

SOME OBSTINATE BLADDER CASES.—George W. Hopkins, M.D., of Cleveland, Ohio, reports as follows concerning some bladder cases: John C., aet 31. Occupation, patrolman. Following exposure patient experienced bladder symptoms as follows: Frequent urination, tenesmus, hypogastric pain and a temperature of 101.4 degrees. The urine was scanty, turbid and loaded with mucus. Diagnosis: Acute cystitis. Treatment consisted of rest in bed, restricted diet, anodynes for the tenesmus, diluent and alkaline drinks. The acute symptoms promptly subsided, but the urine continued abnormal despite the general measures employed and the internal administration of urinary antiseptics. Irrigation with boric acid solutions of varying strength proved unsatisfactory, as did also solutions of potassium permanganate and silver nitrate similarly applied. A twenty per cent. solution of glyce thymoline was then substituted for irrigation, and the improvement was marked and continuous until recovery was perfect.

Harry R., aet 43. Occupation, bookkeeper. Had a history of bladder trouble of several years duration. His urine was blood tinged and loaded with mucus. Microscopic examination revealed an abundance of ammonia, magnesium phosphates, numerous disintegrating pus corpuscles, blood corpuscles and blood shadows. Repeated examination with the sound gave negative results, but a skiograph, taken with a high vacuum hard tube, revealed a small calculus, which had persistently evaded the sound in previous examinations. Lithotomy was performed and the calculus removed, but the urine failed to return to normal. Irrigation in turn with boric acid, potassium permanganate and silver nitrate solutions proved unsatisfactory. Glyco thymoline irrigations proved satisfactory from the start and recovery was ultimately perfect.

SAMETTO IN GENITO-URINARY DISEASES.—Dr. B. G. Inman, of Bradford, Ohio, writing, says: "I have used Sametto, and find that it

is all that one could desire in the treatment of urinary diseases. With an experience of thirty-eight years of practice I know of no medicine that is more direct in its action in all cases of senile prostatitis and other genito-urinary diseases. I regard Sametto as one of our best vitalizing tonics in the reproductive organs, which gives it a wide range of usefulness in the treatment of many nervous troubles"

HUEPPE AND KOCH.—The two schools of thought on questions bacteriological are well represented at present by the distinguished investigators, Hueppe and Koch. Both men are deeply versed in bacteriology and physiological chemistry. Hueppe emphasizes the importance of the perfect health of the body cell—and the special treatment of the body cell as a means of frustrating the attacks of germ life. Koch emphasizes the importance of destroying all germ life so that there will be no attack.

Of course both men are right. We must destroy all the germ life we can. But since a war of extermination of disease germs is impracticable at present, the physician finds a more profitable field for his exertions in preparing the body cells to resist and throw off the attack of germ disease. It is no doubt by this sort of special preparation of the lung cells that hypophosphites and cod liver oil do so much to prevent the progress of the tubercular organism. Scott's Emulsion, containing both the cod liver oil and the hypophosphites, is a good example of those therapeutic agents which bring immunity by reinforcing cell life.

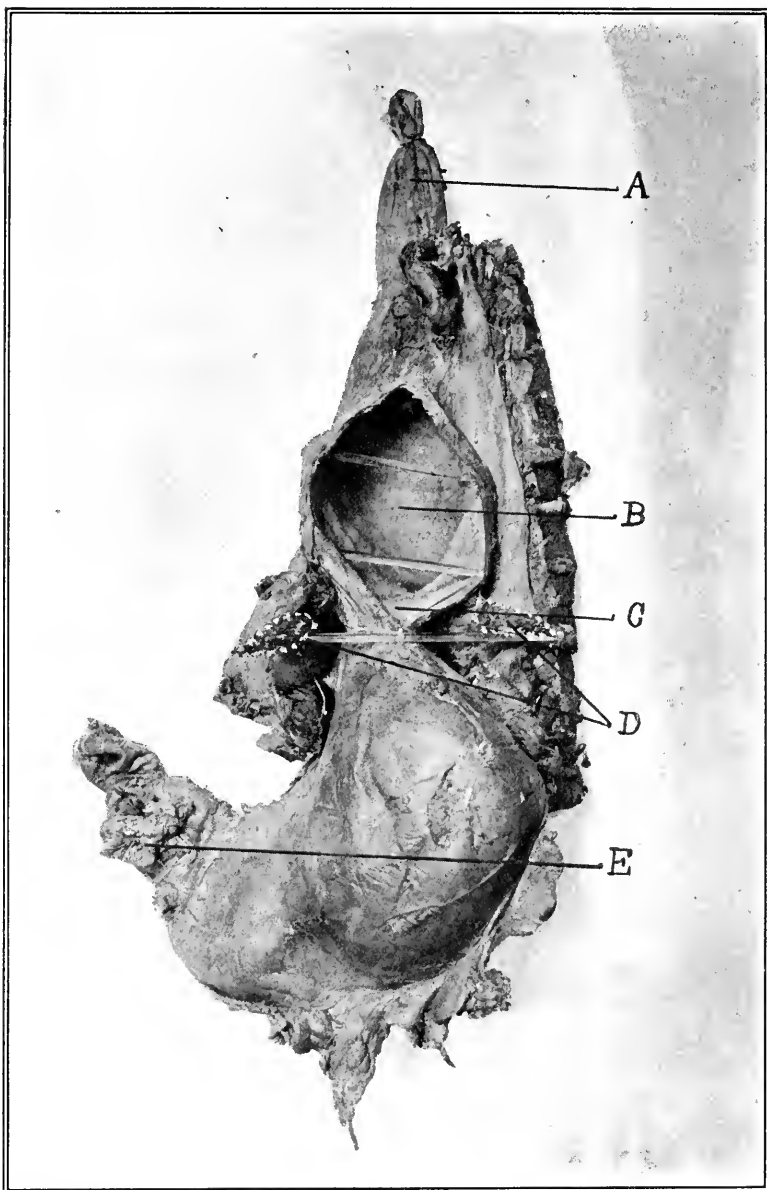
PETROLEUM—At the last meeting of the Therapeutic Society at Washington, D.C., Dr. Barnes of Philadelphia said: It was found, by laboratory experiments, that the addition of pretroleum to albumen digested by an artificial gastric juice under exactly the same conditions as prevail in the human system, very materially hasten and facilitated the process of digestion; it was more rapid and complete than in the same experiment conducted without pretroleum. Furthermore, it was shown experimentally that the mechanical influence of pretroleum upon the churning, peristaltic movements of the upper portions of the small intestines favorably influenced the processes of absorption. In view of these experiments, it can be safely concluded that the manner in which petroleum beneficially effects nutrition is by facilitating, expediting and completing the processes of digestion and assimilation of food. Another experiment was that conducted upon a man with marked malnutrition, in which the changes in metabolism were accurately studied for a period of three weeks by feeding the patient upon a normal diet and then deter-

mining the daily elimination of nitrogen in the urine and faeces. It was found that under the influence of petroleum the retention of nitrogenous matter in the system was increased. As is well known, the only method of determining the influence of any agent upon nutrition is by determining the daily body elimination of nitrogen in the urine and faeces; if a patient's retention of nitrogen is increased, the most important element of the tissues is conserved, and nutrition is correspondingly improved. Furthermore, the facts that petroleum passes through the intestines in its original form, and that it is a solvent of many remedies administered for their antiseptic and astringent influence upon the intestines, indicate a useful field for petroleum as a vehicle. The bulk of experimental and clinical evidence tends to show that petroleum is entitled to a wider field of application in medicine.

PHOSPHAGON.—While most of the compounds of phosphorus contain the substances necessary for the stimulation of lecithin production, they are therapeutically unsuitable because the nervous system is able to utilize only such phosphorus as comes to it in true organic combination. Phosphagonic is a true lecithin-producing combination of phosphorized organic compounds obtained from three sources,—1st, carefully selected and thoroughly aseptic animal tissues,—2d, germinating seeds containing a form of phosphorus identical in composition with that in mother's milk,—3d, phosphorous synthetically prepared in our own laboratory. The lecithogenic and protogenic phosphorized compounds existing in Phosphagön are in shape for immediate appropriation and utilization by the nervous system, and are readily convertible into tissue lecithin, nuclein, protagon, etc. Phosphagön is thoroughly palatable and is invariably well tolerated. To each fluid ounce has been added 16 minims Tr. Nux Vomica, because of its well known tonic effect upon muscular fibre.

Phosphagön is a vitalizing nerve food and tonic in cases of Neurasthenia, General Nervous Debility, "Brain Break," Hysteria, Hystero-Epilepsy, etc. It is also of much value in Tuberculosis, Diabetes, and wasting diseases, Rachitis in children, Mental Over-exertion, Phosphatic Albuminuria, Sexual Atonicity, and in fact, whenever it is necessary to administer a lecithin-producing agent to make good any excessive drain upon the nervous system.

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THE CANADA LANCET

DILATED OESOPHAGUS.

(ILLUSTRATING DR. PETERS' PAPER.)

A. Upper portion, about the region of the cricoid cartilage. B. The widest part laid open. C. is placed just above the point where the oesophagus passes through the diaphragm. D. The hypertrophied crus of the diaphragm, divided and held apart by a glass rod. E. The gastrostomy wound, about two inches from pylorus.

THE CANADA LANCET

VOL. XXXV.

MARCH, 1902.

No. 7.

1. A CASE OF FUSIFORM DILATATION OF THE OESOPHAGUS WITHOUT INTRINSIC STENOSIS

2. A CASE OF OESOPHAGOTOMY FOR FOREIGN BODY.— RECOVERY.

By GEORGE A. PETERS, M. B., F. R. C. S. Eng.

Associate Professor of Surgery and Clinical Surgery University of Toronto; Surgeon, Toronto General Hospital;
Surgeon, Hospital for Sick Children; Surgeon, National Association for Consumptives.

THE case from whom the specimen which is the basis of this article was removed, was a farmer aged 35 years, referred to me by Dr. S. T. Rutherford of Listowel, to whose careful observation and clinical acumen. I am indebted for the following history. The family history is free from taint of cancer. There is, however, a history of some degree of neurosis, particularly on the mother's side. The personal history is that of a strong, hearty, well-developed and well-proportioned man, a farmer by occupation and a very hard-working man. He was always in the habit of eating rapidly, and then going immediately to work. Until the age of about 30 years he experienced no trouble in swallowing and the history of difficulty in deglutition which follows, dates from December, 1896, when he first came under Dr. Rutherford's care. For a short time previously, he had noticed that he had occasional attacks of regurgitation of food and liquid after meals. This condition persisted with fluctuations in intensity for four or five years, gradually, however, becoming more marked. He noticed that the food which regurgitated was not sour in taste but somewhat sweet, apparently due to the fact that it had been acted upon by the saliva, but had not come in contact with the gastric juice. The eructation was not exactly an act of vomiting, but a gulping, regurgitating act. It would sometimes be accompanied by marked hiccough. He observed that on some occasions after partaking of a solid meal, the ingestion of a cup full of fluid, such as milk or tea, would carry the whole meal onwards to the stomach and thus obviate the regurgitation. This, in fact, was his habit of eating for many months. On the contrary, on some occasions the swallowing of the liquid seemed to stimulate or excite the act of regurgitation, and the whole meal would then be rejected. The latter condition gradually became more marked, until finally he found it

impossible to cause the food by any method to reach the stomach. He was sometimes troubled very considerably with hiccough, and the whole history of the case would appear to point to a spasmodic element in the disability in regard to swallowing. Recognizing this element, Dr. Rutherford exhibited the bromides in full doses, and on the further advice of the late Dr. J. E. Graham, who suspected that there might be pressure of enlarged mediastinal glands on the oesophagus, he also had a full course of the iodides. The bromides, when given in full doses, gave more relief than any other drug, thus serving to substantiate the view that there was a spasmodic element in the causation. The patient noticed that while taking the bromides, his hiccough was less marked than under the iodide treatment.

During the last year and a half he gradually lost flesh to the total amount of some 50 or 60 lbs and had, of course, become correspondingly weak. Latterly his weakness had been such that he had found it necessary to give up work altogether, and when in that weak condition in September, 1900, he was prostrated by an attack of typhoid fever. This still further reduced his condition and swallowing became impossible, so that had rectal feeding not been resorted to, he would undoubtedly have died at that time. On the subsidence of the fever he was fed for a time by the stomach through a tube which his physician was able, after some manipulation, to pass. Dr. Rutherford at that time recognized a dilated oesophagus, capable of containing nearly a pint of fluid.

As soon as the fever abated, he was placed in the hospital, under the care of Dr. Howitt, of Guelph, who preformed a gastrostomy, making an opening near the pyloric end of the stomach, but making no attempt in the then weak condition of the patient, to ascertain the state of the oesophagus. The gastrostomy was followed by most gratifying success. He could take food by the fistulous opening and retain it well in the stomach. It seemed to digest perfectly, and in the course of some three or four months he increased in flesh up to his original weight.

After being fed through the gastrostomy opening for some six months, he began again to go down hill, and became nervous and extremely anxious to have something done to allow him to partake of food in the natural way. With this purpose in view, he, on Dr. Howitt's suggestion, placed himself under my care in the Toronto General Hospital.

On passing an oesophageal bougie no obstruction was found until the bulb had passed some 16 inches from the front teeth. Here the passage was abruptly interrupted, though the bulb was not grasped to any extent whatever. Occasionally, however, the bulb could be made to pass onwards to a distance of nineteen inches, apparently entering the stomach.

But I was never able to feel the bulb of the bougie by means of a sound passed through the gastrostomy wound. This must have been, as I found out later, due simply to the fact of accidentally missing the bulb, for it is quite clear that the two instruments must have been in the same cavity. The stomach was fairly large, and this probably accounted for the ease with which the two instruments missed one another.

Before operation my conception of the condition was that there was an hour-glass contraction of the stomach, the oesophagus communicating with the left compartment, while the gastrostomy wound communicated with the right. This view seemed to be substantiated by the fact that liquid coloured with methylene blue to the amount of more than a pint could be swallowed and yet could not be recovered through the gastrostomy wound. It turned out afterwards, of course, that the blue liquid swallowed remained in the oesophagus and never entered the stomach at all, as it would after a short interval be returned by an act of easy vomiting, or regurgitation.

In March, 1901, I made an opening parallel with the margin of the costal cartilages on the left side, through the rectus muscle, and entered the abdomen. By means of a sound passed through the gastrostomy wound, I very quickly found that my diagnosis of hour-glass contraction of the stomach was an error, and that the sac which contained the fluid was situated above the diaphragm. The oesophageal bougie passed by the mouth under an anaesthetic, could not be felt with the fingers in the abdomen outside the stomach. Accordingly a small opening was made in the stomach and the finger introduced. The stomach wall felt smooth, and it was only after a prolonged search that the oesophageal opening was found. It seemed to lie close to the aorta, rather to its right side, and was so small that only the tip of the index finger could be made to enter it. With the finger in that position the aorta seemed to be beating directly against its left side, and gave me the impression that the oesophagus passed through the same opening in the diaphragm as the aorta but to the right of that vessel. This was subsequently disproved so far as the common opening was concerned, by post mortem examination, as it was found that the right crus of the diaphragm passed between these two tubes in the normal manner, but that the oesophageal opening had been dragged quite to the right of the middle line by the weight of the oesophageal sac pouching into the right pleural cavity.

An oesophageal bougie was now passed by the mouth, but could not be felt to come in contact with the finger in the cardiac opening of the oesophagus. On withdrawing the finger from this opening, however, and exploring the neighborhood, the end of the bougie could be felt dis-

tinctly to the right of this opening through the stomach wall and the diaphragm. After considerable manipulation the bougie was directed towards the oesophageal opening, and passed on into the stomach. The bougie was now directed by the finger across the stomach cavity towards the gastrostomy wound and made to emerge there. A silk thread was tied to it, and to this in turn a length of small rubber tubing, which was thus withdrawn across the stomach through the cardiac opening and so upwards to the mouth. My intention was to endeavour to dilate the stricture by slow traction by means of this rubber tube, adopting to some extent the string-saw method of Abbe.

The operation wound in the stomach was now stitched up by a double row of Lembert sutures, the stomach dropped back, and the abdominal wound closed after disinfection, without drainage.

The operation was a prolonged and somewhat severe one, and the patient suffered greatly from shock. He died within eight hours of the operation, apparently from exhaustion and failure of the circulation.

POST MORTEM EXAMINATION.

On opening the chest wall the oesophagus was found lying pouched towards the right pleural cavity. It still contained some fluid, and looked as large as the sigmoid flexure of the colon. On removing the right lung, it was seen that the dilatation extended from the pharynx to the oesophageal opening in the diaphragm, being considerably larger below than above and terminating in an abrupt manner just above the diaphragm. The diameter of the dilated oesophagus at its upper end (Fig. 1 A) in the recent state was about two inches, while at a point an inch and a half above the diaphragm (Fig. 1 B) where the dilatation was greatest, the diameter was a little less than three inches. The coats were exceedingly muscular, but taking into consideration the great dilatation did not display a thickness that would indicate hypertrophy. The relation of the oesophagus to the opening in the diaphragm was of very peculiar interest. Even after death it was with difficulty that the little finger could be passed through this opening, and the stricture was clearly extra-oesophageal and due to the tight clasping pressure of the pillars of the diaphragm at this point. The inner lining of the oesophagus was perfectly soft and smooth here as well as throughout its whole length. There was no sign whatever of intrinsic stricture, either malignant or non-malignant. Nor was there any scarring. The pillars of the diaphragm, however, were exceedingly strongly developed. The left crus, supplemented by that portion of the right which crosses between the oesophageal and aortic openings was particularly strongly developed (Fig. 1 D.) and was not less than five-eighths

of an inch in thickness at a point opposite the oesophageal opening. It is quite clear that the tension during contraction of this portion of the diaphragm, particularly if of spasmodic character, would exert a very powerful influence in obliterating the lumen of the oesophagus. In fact, the action of the two crura of the diaphragm upon the oesophagus when in a state of contraction might be compared to the action of a dull, loose-jointed pair of scissors on a rubber tube, viz., to produce a sudden kinking of the oesophagus at the point where it passed between these two muscular bands. The whole diaphragm was an exceedingly strongly developed muscle, and, in fact, presented a body of muscular tissue far in excess of what must be looked upon as normal. One may, perhaps, even go farther than this, and point out that the obstruction was not, at all events in the later periods of life, merely spasmodic but of such a character that, even in a passive condition, these muscular bands were such as to produce a marked stenosis of the oesophageal opening (Fig. 1C). This was recognized, as above pointed out, during the operation, when it was found that it was with difficulty that the tip of the index finger could be inserted into it, and, moreover, also at post mortem examination, when it was found that the little finger could scarcely be passed through this opening. It is, to my mind, quite clear that the stricture in this case was due to the hypertrophied condition of the pillars of the diaphragm, with or without a degree of spasm in this muscle. Moreover, Professor J. J. Mackenzie found on examination of a section of the oesophagus at the point of constriction that there was no cicatricial tissue whatever, and that the circular muscular fibres seemed to be mechanically accumulated but not hypertrophied. The causative relation of the pillars of the diaphragm to the stenosis is further attested by the fact that after their division the index finger could with ease be passed from the oesophagus to the stomach, up to the second joint.

REMARKS.

The dynamics of swallowing in a case of this kind affords an interesting subject for speculation. Ordinarily in a case where a muscular effort is opposed by mechanical obstruction, hypertrophy of the muscle takes place, and thus the effect of the obstruction may be entirely overcome, but where the hypertrophy is unequal to the task, dilatation takes place, and when that stage has been reached the problem is an entirely different one, because the muscular contraction, taking the form in this instance of a peristaltic wave, is unable even at its height to entirely obliterate the lumen of the viscus. Accordingly, instead of forcing the column of food and liquid ahead of itself, the peristaltic wave now merely

travels upon the surface of this column which, at the moment of passage of the wave, is of course lessened in diameter. The result is, that the food and liquid instead of being forced strongly against the obstruction merely rush strongly backwards, or regurgitate, beneath the peristaltic wave and re-accumulate in the upper part of the dilatation.

Taking the instance before us, it is quite clear that this must have been the case, otherwise food must have entered the stomach, since there was really no absolute obstruction, as the tip of the finger or a bougie properly directed could at all times be passed through the opening from the oesophagus to the stomach. Practically, then, after a certain stage of dilatation has been reached, the condition appears to perpetuate itself, and the increasing weight of the column of food and liquid which may be contained in the dilated portion merely tends the more strongly to bring about a passive dilatation. Moreover, it must not be forgotten that there is a negative pressure in the thoracic cavity through which this portion of the oesophagus passes and this still further tends to favour the dilatation. Again, in the case above cited, it was perfectly evident that the presence of the heart and pericardium crowded the dilated oesophagus towards the right pleural cavity and caused a distinct curve of the tube in that direction. This again would still further increase the stenosis at the point of passage of the esophagus through the diaphragm by tending to cause a sharp kink of the tube at that point.

The literature of the subject has been comprehensively reviewed in an article by Dr. H. Strauss, of Berlin, Germany, which formed the subject of a lecture and demonstration at the Nineteenth Congress of Internal Medicine at Berlin. Among the theories given to account for the condition may be mentioned the following:—

1. Congenital weakness of the oesophageal wall as urged by Strümpel.
2. Abnormal relaxation or elasticity of a Mehnart's oesophageal entromere.
3. Pressure of the aorta upon the lower portion of the oesophagus, leading to a slight degree of stagnation which, it is argued, sets up repeated irritations of the mucous membrane which lead to spasms of the cardiac region of the oesophagus.

4. Strümpel considered that in his case a bend of the oesophagus in its lower portion had impeded the passage of the oesophageal contents.

In the transactions of the Pathological Society of London, Vol. 39, p. 103, Handford reports a case of dilatation of the oesophagus without stricture. The history given is similar to that given above as regards the difficulty of swallowing and the regurgitation of food, but differs in regard to the cardiac symptoms and the mode of death. The seat of

obstruction in this case was exactly at the point where the oesophagus passes through the diaphragm, and it is noted that there was no intrinsic stricture of the oesophagus, since the opening would readily admit the finger. There was no induration or thickening which could point to a cicatricial condition or new growth. It is noted, however, that the aorta was dilated to some extent, and the cause of the obstruction is attributed to the pressure of the oesophagus against the unyielding central tendon of the diaphragm by the dilated aorta. The condition of the diaphragm itself is not noted, nor is there history of hiccough, as was present in my case, but it seems to me possible that the fault here may have been primarily in the diaphragm, since it is difficult to understand how simple dilatation of the aorta could produce such an effect upon the oesophageal opening through the diaphragm.

I have above given my reasons for holding the diaphragm responsible, in this case, for producing an extrinsic stenosis of the oesophagus, probably primarily as a spasmodic condition but subsequently passing on to an organic lesion due largely, if not altogether, to hypertrophy of the pillars of the diaphragm.

A CASE OF OESOPHAGOTOMY FOR FOREIGN BODY.—RECOVERY.

The case about to be described is that of a patient referred to me by Dr Allen Baines, who furnishes the following history :—

Mr. G. D., aged twenty-six, while swallowing a raw egg dislodged and swallowed a small vulcanite plate bearing one front tooth. This occurred on the 18th July, 1901. The plate lodged just below the level of the cricoid cartilage. The patient experienced great pain and was quite unable to swallow any solid food. A throat specialist, who was called in, made an attempt to withdraw the plate by means of a coin catcher. He was able to locate the plate but not to withdraw it. This was explained afterwards at the time of the operation by the fact that the two lateral horns of the plate, which was an inch and a half in length transversely and fortified at the points by gold tips, became entangled, as it were, in the mucous membrane and muscular coats of the oesophagus, so that any efforts made to draw the foreign body upwards merely resulted in imbedding it more firmly in the oesophageal walls. Moreover, the frequent contractions of the oesophagus in efforts to swallow, still further served to imbed the horns. The plate thus came to occupy an oblique position across the oesophagus in such a way that its concavity looked forward, and thus an oesophageal bougie passed readily downwards and failed to locate the foreign body. Had it not been for the

patient's sensation one might have thought that the plate had passed on-wards to the stomach. Its continued presence, however, was detected by means of an X-ray photograph, which showed the plate lying slightly obliquely in the position indicated, at a short distance above the sternal notch.

It thus became evident that no less an operation than an open oesophagotomy would suffice to dislodge the body, and with that end in view Dr. Baines placed the patient in my charge. Accordingly on the 22nd July, assisted by Drs. Baines and Wishart, the following operation was undertaken.

The patient was placed in position, with the shoulders well raised and a sandbag under the neck so as to throw the head somewhat backwards and thus increase the area for operative measures. An incision about three inches long was made on the left side of the middle line, corresponding with the anterior margin of the sterno-mastoid muscle. The incision was rapidly deepened, largely by blunt dissection, until the anterior belly of the one-hyoid muscle was reached. This muscle, and the sterno-thyroid and sterno-hyoid muscles were drawn inwards. The lateral border of the trachea could then be felt, and on stretching the wound open the oesophagus could be located immediately behind this. Great assistance in locating the gullet was rendered by an oesophageal bougie with a large bulb, passed into its interior and pressed towards the wound. The foreign body, however, could not be felt. The gullet was separated from its connections to a considerable extent, both anteriorly and posteriorly, by blunt dissection, and in this way it was possible to bring its lateral wall almost to the level of the skin before making the opening. The remainder of the wound was then packed closely with iodoform gauze, so as to prevent any discharge which might escape when the oesophagus was opened, from infecting the deep portion of the wound. These two measures, viz.: the free dissection of the oesophagus from its surroundings and the packing of the wound, we regarded as very important measures in preserving asepsis of the wound. An incision was now made upon the bulb in the oesophagus, and the lateral margin of the wound was held by a pair of forceps on each side. The finger was then inserted, and the plate was felt to occupy the position already described, viz.: just below the level of the cricoid cartilage, and so firmly and deeply imbedded in the oesophageal wall that the finger could easily be passed in front of it. This accounted fully for the inability to feel it with the oesophageal bougie, or with forceps passed down from the mouth. A pair of curved forceps were then passed along the finger, and the body grasped and removed, though not without very considerable difficulty. Great care was

taken to catch all the mucous that escaped from the wound in sponges. The wound in the oesophagus was then closed accurately by means of a double row of catgut sutures, the outer row being in the form of Lembert sutures. Having sponged this portion of the wound dry, and disinfected with carbolic acid solution 1-20, the gauze was removed from the main body of the wound and the oesophagus allowed to fall back to its place. The whole wound was then sutured up with deep sutures, applied in such a way as to bring all the deep parts of the wound together and yet allow of their subsequent removal by passing the ends through the skin at each end of the wound and tying them over pledgets of gauze. The skin edges were approximated by a continuous horse-hair suture, and a dry dressing applied after dusting the wound freely with bismuth formic iodide.

The patient was given no food by the mouth for two days, and the wound healed kindly without any swelling or inflammation. In the meantime the patient was well sustained by rectal feeding.

The sutures were removed on the fifth day, when the wound appeared to be perfectly healed. A day or two afterwards, however, a small area of fluctuation was observed under the wound, and on making a minute opening in the scar a small quantity of purulent fluid escaped. This left a cavity, which however did not communicate with the oesophagus. The abscess discharged for about a week but ultimately closed, leaving but a slight scar.

The patient was allowed liquid food on the fifth day, and shortly afterwards solid food was permitted. He had some slight difficulty in swallowing at first, and a slight degree of hoarseness was present for a short time, but he has subsequently fully recovered the use of his voice, and of his powers of digestion. There is no evidence of any stricture having followed the operation.

A CASE OF GRAVE'S DISEASE TREATED BY THYROIDECTOMY

By J. T. FOTHERINGHAM, M. D.,
Professor of Therapeutics, Trinity Medical College, and

GEO. A. BINGHAM, M.D.,
Associate Professor of Clinical Surgery, Trinity Medical College.

MISS McK. æt. 30 years, entered my Clinic at the Toronto General Hospital on September 9th, 1901, with the following history:—Seven years ago she noticed an enlargement in the thyroid region to which she paid no attention. Two years later she lost her mother and had other family troubles and at that time the mass began to increase rapidly.

From that time her health began to fail. She lost flesh steadily and from 167 lbs. her weight at that time, she became reduced during the last four or five years until now she weighs 120 lbs. From a robust girl she became reduced to the condition of a partial invalid. Her eyes became prominent, the breathing embarrassed and the heart-action very rapid. She tired easily and at times suffered from dyspnoea and dysphagia. She was restless and irritable at all times. On examination I found an emaciated woman apparently 38 or 40 years of age with a haggard anxious expression, prominent eyes and a pulse rate of 120. She was excited and her breathing slightly stridulous at the time.

The notes from my case book are as follows:

Miss K. McK., aged 30, consulted me Sept. 5th, 01. Kindly referred by Dr. D. J. Gibb Wishart.

Family history—Father living age 72, very robust and well. Mother dead, age 60, tuberculosis of the lungs and bowels. Brothers, 1—none dead. Sisters, 7—one dead aged 9 years, from meningitis.

Personal history—Never a week in bed except from diphtheria, five weeks, at age of 18 years.

Present illness—Began five years ago, when nursing her mother through a long illness, with rapid heart, anaemia, irregular menstruation, etc.

Present condition—Tall, slight, pale, nervous, with goitre, prominent eyes. Temp. 98½°F. Pulse 112. (8 p.m.).

Weight—132. Most, 167 lbs. 5 years ago. Not much gain or loss in past two years

Digestive system—Tongue clean, tremulous. Appetite good. No dyspepsia or constipation.

Respiratory system—Normal.

Circulatory system—Small, rapid, not quite regular pulse. Blood not examined but she is distinctly anaemic.

Genito-urinary system—Menstruates at present every month. Has never been regular. Flow scanty and pale. No pain or leucorrhoea.

Nervous System—Headache rare. Is a good sleeper as a rule. But

(a) Fine tremor of hands, tongue, etc.

(b) Eyes prominent. Van Graefe's sign absent.

(c) Capillary unrest, not very plain objectively, creeping blush of skin of chest not prominent. She complains of flushes and heats, and cannot bear much clothing or bed clothes. (Compare the sense of internal heat from which some suffer in *paralysis agitans*.)

(d) *Myotatic irritability* distinctly plus. (Supinator, jaw, and knee-jerks, etc.)

(e) Goitre—large, firm, cystic, pulsating, both lobes and isthmus, left lobe the larger.

Diagnosis.—Grave's Disease.

I am much obliged to Dr. Bingham for the skill with which he operated—the details of the surgical side of the case he will describe to you. I may preface my brief remarks with a revision of the extremely chaotic state of the etiology of this disorder. Two views are held as to the functions of the thyroid gland. One is that the gland provides an anti-toxin to the results of destructive metabolism, or somehow removes or destroys deleterious substances, the result for instance of abnormal proteid digestion in the intestine, which otherwise do damage to the central nervous system.

The other is that the secretion is necessary directly for the proper nutrition, more particularly of the central nervous system. The first view may be called the catabolic, the second the anabolic view, of its action. In Allbutt's System, W. M. Ord expresses the belief that the thyroid condition is not at any rate the primary cause of the disease at all.

Trousseau, whose observations upon the obscure larval or non-typical forms of the disorder, were so valuable, "*formes frustes*" he called them, seems to have been the first to hold that the disease could exist without either exophthalmos, goitre, or marked frequency of pulse. I have certainly seen two or three cases of which this could be said, and one in particular in which actual mental aberration with homicidal impulses was the chief feature.

Theories differ also as to whether it is from over or under activity of the gland that the symptoms arise. "Hyper" or "hypo-thyroidation" some of our American confreres like to call it. If one contrasts the clinical picture of myxoedema or cretinism with that of Grave's Disease he will surely have difficulty in accepting under-activity of the organ as the under-

lying condition. On the other hand, one sees clinical reports of cases in which administration of thyroid Extract is said to have been of service. My own experience is entirely against its use. Still it may be that here again as so often in matters medical, the truth lies between, and that there are cases of both kinds. The interesting features in the progress of the case after operation are two. First, the accession of a severe attack of acute Grave's Disease on the day after the operation, in which pulse ran 140-170, and temperature 103° F. There was much shock the first day but this soon disappeared, and the temperature and other systemic disturbance was plainly not from the wound; belladonna, digitalis and potass bromide, with the icebag to the praecordium, soon caused the symptoms to subside.

The other feature referred to was an aphonia, of typically hysterical type, with occasional lapses into phonation particularly during the night, which still persisted when she left town seven weeks after the operation. The cords however lay in a typical cadaveric and not in the hysterical position, Dr. Wishart informs me, so that the recurrent laryngeal nerves though not divided in the operation may, have been so roughly handled as to produce the vocal cord paralysis. The girl went home practically well seven weeks after operation, and I have to heartily congratulate myself, and thank Dr. Bingham, for the eminently satisfactory outcome of an operation for a disease usually so serious and intractable.

The surgical side of the case is described by Dr. Bingham as follows:—

The thyroid gland was enlarged bi laterally, both lobes and especially the isthmus being involved. The whole mass was solid moveable and circumscribed. All the ordinary methods of treatment had been exhausted when she consulted Dr. Fotheringham who advised operation. I agreed with this and operated on September 11th through an oblique incision from the left mastoid process to the sternum. The inferior thyroid arteries were tied off very close to the tumor and the whole mass removed except a small apparently healthy lobule, situated at the upper part of the right lobe. The anæsthetic (chloroform) was only fairly well borne and normal saline was introduced per rectum during the operation.

The mass extended well below the upper margin of the sternum and left clavicle and the cavity thus left was obliterated by "quilting" with several rows of catgut sutures. Drainage was introduced and the wound closed.

During her convalescence she developed several attacks of intense tachycardia with elevated temperature. The first of these attacks occurred on the evening of the 12th when at 6 o'clock, her temperature was

103.1°, pulse 170, respirations 46. The ice-pack was used over the heart and at 8.30 temperature was 100.3° pulse 157, respirations 31.

Stimulation was ordered as required, as well as a combination of morphine, atropine and digitalin used hypodermically for several days.

On the eleventh day temperature, pulse and respiration were normal and thereafter convalescence was uneventful and she was discharged on the nineteenth day after operation. Vocal phonation was lost entirely from the time of operation, a temporary condition not unusual in these cases, and early in the present month (October) she began a course of electrical treatment of the vocal cords by Dr. Wishart. On October 15th the doctor tells me she is beginning to phonate and he can detect some motion in the cords.

As to her present condition she tells me she has not felt so well in five years. She is gaining steadily in flesh and strength, restlessness and irritability are disappearing and tachycardia practically a thing of the past.

The following points in connection with the case appear to be of interest :

One source of danger in this operation is the anaesthetic. If we can dispense with the general anaesthetic we remove this danger. In this case, owing to the highly nervous condition of the patient, this appeared to be impracticable, but I am satisfied our efforts should be directed toward the use of local anaesthesia in every case possible.

Another source of worry to me in these cases has been the yawning cavity left behind the sternum and clavicle, inviting retention of secretions, burrowing of pus and mediastinal infection. This I think can be entirely overcome by a careful resort to the method of quilting used in this case. The aphonia often following complete thyroidectomy is not necessarily permanent but may result from (a) hysteria or (b) laryngitis, owing to the necessary traumatism inflicted during the operation.

The discussion of other methods of operation is not within the scope of this report. I may mention however that the partial operation, in cases of exophthalmic goitre such as the one I have reported, does not appear to have been attended with the success which was hoped for.

Turning to the post-operative treatment I cannot too strongly insist upon the imperative necessity for a careful and scientific attention to the patient. In this case the medical treatment was directed by Dr. Fotheringham and I was particularly impressed with the effect of the ice-pack to the heart, which appeared to relieve the patient so quickly.

A CASE OF PERFORATION OF THE BOWEL IN TYPHOID. OPERATION, RECOVERY. FOLLOWED BY SUBPHRENIC ABSCESS. OPERATION, RECOVERY.*

By HERBERT A. BRUCE, M.D., F.R.C.S., Eng.

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G. A. S., M. B., aged 29. Dr. Rogers, of Ingersoll, has kindly furnished me with the following history of the case:

"Last summer he suffered slightly from gastric and intestinal dyspepsia. At the time of his illness he was attending three typhoid cases, one of which was very severe. During the ten days previous to the attack on October 17th, he had no appetite, aching pains generally, and chilly feelings, but no fever. He thought possibly he might have typhoid, but kept on his feet until October 17th, when he had a moderate chill. Temperature shot up to 103° F., and his pulse was 100. When I first saw him on the 19th he was suffering from a severe headache, muscular pains in various parts of the body, and a severe backache. Temperature 102½; pulse, 100; and respiration, 21. Examination of the urine revealed nothing abnormal. A blood examination gave the typical Widal reaction.

"On Oct. 20th, his temperature was 103; pulse, 110; respirations, 22, and his other symptoms were somewhat intensified. On the 21st he was removed to the Sanitarium at Ingersoll, and upon admission his pulse and temperature were as recorded. The case ran the usual typhoid course until the 26th, when a moderate hæmorrhage occurred. On the 27th a second hæmorrhage of less magnitude occurred, and on the morning of the 31st a third slight hæmorrhage. Temperature in the morning, 99 4-5, pulse 78, respirations 20. At 10.30 o'clock that evening his temperature was 98 1-5, respirations 20, and pulse 78. He was feeling first-class at the time, and was quite jubilant at the prospect of an early recovery. He went to sleep at eleven o'clock, but became restless at twelve, and tossed about until 2.30 in the morning, when he was seized with a severe pain in the region of the bladder. At this time his temperature was 99, respirations 20, and his pulse 76. The pain grew rapidly worse, and I was telephoned for, but as I was out in the country, Dr. Williams was obtained, and ordered 1-8 gr. morph. sulph. and 1-300 gr. atropia sulph., to be repeated in an hour if necessary. After the second hypodermic the pain was relieved.

"At 9.30 o'clock in the morning I saw him, and found quite a changed countenance from the preceding night. Temperature 104, respirations 26, and pulse 110. He had a very anxious expression, but said he felt pretty comfortable. There was not the slightest symptom at the time of

*This paper was read and the patient presented before the Toronto Clinical Society, Wednesday, March 5th, 1902.

collapse. At 12.30 Drs. Parke, Tait and Williams saw him with me, but no agreement could be arrived at as to whether or not perforation existed. Shortly after this I telephoned to Dr. Bruce to come up on the two o'clock train."

I may say here, that in telephoning, Dr. Rogers told me that he suspected a typhoid perforation.

I will give my notes as to the patient's condition when I saw him at 6.30 on the evening of November 1st. Temperature, 103 1-2, pulse 126, and respirations 22. The abdomen was hard all over and tender. There was no distension, but on the contrary he was quite flat. The liver dulness was somewhat lessened, but had not disappeared. His facial expression was anxious, and what one sees so commonly in peritonitis. A diagnosis of typhoid perforation was made, and the patient prepared for operation

Shortly after nine o'clock he was brought into the operating-room, and was given chloroform by Dr. Tait. Dr. Rogers assisted me, and Drs. Williams, Parke and McWilliams were also present. The usual median incision was made, and the perforation was found very easily, about ten inches from the cæcum. It was very small, being only the size of the lead in a lead-pencil. Some lymph surrounded the perforation. There was marked general peritonitis, with about a pint of sero-purulent fluid in the peritoneal cavity.

A very interesting feature in connection with the appearance of the ileum was the fact that pieces of lymph, about the size of a half-dollar, were present on the surface of the bowel, at intervals of three inches, extending over the lower three or four feet, evidently Nature's effort to reinforce the ulceration and avert perforation. The ulcer was turned in by means of a double row of Lembert's sutures, and the peritoneal cavity flushed out with hot salt solution. Iodoform gauze was put into the abdomen at the site of the perforation, to act as a drain, and the abdomen was closed, with the exception of about an inch, to allow the passage of this gauze.

He was back in bed again at ten o'clock, the operation taking about thirty-five minutes. We considered from the symptoms that perforation had probably occurred about 2.30 o'clock, so that the operation was done 18½ hours afterwards. Immediately after the operation his pulse was 140, but in an hour's time it came down to 120. 1-20 gr. of strychnine was given hypodermically, immediately after the operation, and every two hours for four doses. Then 1-30 gr. every three hours. Eight ounces of hot salt solution was given by rectum every two hours for the first twenty-four hours after operation. He was also given a

nutrient enemā, consisting of six ounces of milk and half an ounce of whiskey every eight hours.

At twelve o'clock he had a slight movement, very offensive, much flatus being expelled. At one o'clock his temperature was 100, pulse 118, and respirations 25. At two o'clock he had another small movement, a great deal of flatus being expelled. At six o'clock on the morning of the 2nd his temperature was 100, pulse 110, and respirations 26. At four in the afternoon his temperature was 99 3-5, pulse 120, and respirations 26.

On the morning of November 3rd his temperature was 99 2-5, pulse 106, and respirations 26. In the evening the temperature was 100 2-5, pulse 108 and respirations 28. From this he continued to improve until the morning of the 5th, when his temperature was 98 3-5, pulse 88, and respirations 22. Calomel was given on the 5th, and he had a free movement on the 6th, and temperature was normal on the morning and evening of the 7th—pulse 86, and respirations 20. The temperature fluctuated from this on, but gradually rose until November 15th, when it reached 101 4-5, with a pulse of 104.

On November 16th I went up again to Ingersoll as there was pus coming from the original opening left for drainage, and it was thought not to be draining freely. The patient was given chloroform, and the sinus enlarged and found to lead to a cavity about the size of a hen's egg, which extended from the middle line outwards to the outer edge of the rectus muscle, the floor being formed of loops of bowel.

I made a counter opening here for drainage, wiped out the cavity with 1-40 carbolic acid solution, and put a drain in through the old opening, and also through the new one, on the right side of the rectus muscle. The temperature did not drop, however, as was expected after this procedure.

On the 20th of November he first complained of pain on the right side, in the region of the liver, and this gradually became more severe. A pleuritic friction rub was made out, and air did not seem to be entering the lower portion of the right lung. There was, too, at this time, some tenderness over the gall bladder, and increased dulness. This gradually became more marked, and the line of liver dulness descended. On the 25th Dr. W. P. Caven was sent for and examined the patient, and thought that the gall bladder was infected with the typhoid bacillus, and on the 6th December I went up to Ingersoll again.

I will here give my notes of his condition on December 6th. His temperature the previous evening had been 102 1-5, pulse 130, and respiration 22; and now his temperature was 101 1-5, pulse 112, and

RECORD OF TEMPERATURE.

respiration 22 On examination, I found the liver about two inches below the ribs, increasing very greatly the extent of liver dullness. The right side was bulged out, making it appear as if the liver was greatly enlarged. At the lower edge there was a great deal of tenderness, and the skin was red and brawny.

I could make out deep fluctuation here. Dr. Rogers gave me a history of the gall-bladder having been markedly enlarged, and that only during the past couple of days had the swelling at the lower edge become diffused, and the outline of the gall-bladder disappeared. Chloroform was given by Dr. Walker and Dr. Rogers assisted me, (Dr. Tait being also present.) Owing to the above history, I made an incision in the right semilunaris and exposed the liver and gall-bladder. The gall-bladder was not enlarged, and appeared to be normal. On palpating the liver to the outer side of the gall-bladder, fluctuation could readily be made out. I made an incision into the liver, at this situation and after penetrating $\frac{1}{4}$ of an inch, evacuated about a quart of pus. On passing the finger through the opening in the liver, I found the margins of the liver were somewhat ragged, and my finger entered a large space behind the liver, filled with pus. On passing the finger still further, the ribs could be felt posteriorly. It was evident then that we were dealing with a large subphrenic abscess, which had secondarily invaded the liver.

An opening was made in the tenth intercostal space, and just to the outer edge of the erector spinæ muscle, and a quart or more of pus drained out through this. In making this incision the pleura was not opened into. The cavity was explored through the posterior opening after the evacuation of the pus, and proved to be of great dimensions, leaving a huge space between the liver and the diaphragm. Two drainage tubes were put in, and a large quantity of gauze. There was sufficient room between the ribs to allow of this being done. A drain of iodoform gauze was put down to the opening in the liver anteriorly, and surrounded by strips of iodoform gauze, shutting off the general peritoneal cavity. The wound anteriorly was closed, with the exception of about half an inch, through which the gauze passed. He was under the anaesthetic between thirty-five and forty minutes, and considering his weak state, stood the operation very well. His pulse at the finish was 150. Interstitial hot salt solution was given under each breast,—about a pint—and hypodermics of strychnia. etc., were freely used.

Dr. Rogers says that the collapse following was most marked, and during the night an interstitial saline was given, strychnia and brandy hypodermically and oxygen administered, and eight ounces of hot salt solution were given by bowel every two hours. The next day another

interstitial saline was given. His temperature was 99.4-5, and his pulse 160. At times his pulse was quite imperceptible, and even when felt it was so rapid as to prevent its being counted. The following day the temperature rose to normal, and the pulse came down to 110-120. After this the temperature never rose above 100, and kept between normal and 99-2/5, until he left the Sanatorium, on Jan. 7th, for home, the opening behind being completely closed. His pulse remained somewhat quick, however, varying from 80 to 110. After returning home he rapidly gained strength, and resumed his practice on Feb. 15th.

I wish now to express my admiration and appreciation for the exceptional skill and ability shown by Dr. Rogers in his treatment and management of the case. He deserves all the credit for the diagnosis of the perforation, and his prompt action undoubtedly saved a valuable and useful life.

The perforation occurred on the fourteenth day after the real onset of the disease, if we consider

the disease commenced when the chill occurred followed by a temperature of 103. I think it is generally stated that the most frequent time for perforation to occur is during the third week, the second week following very closely upon this. Osler says that perforation occurs in the majority of cases in small, deep ulcers, and that there may be two or even three, and that usually within the last foot of the ileum. In one case only,

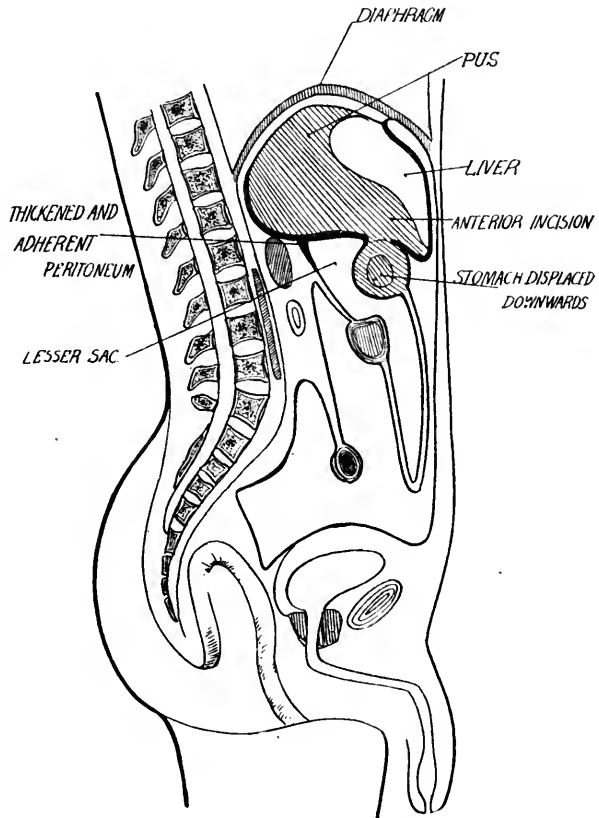


CHART SHOWING POSITION OF SUBPHRENIC ABSCESS.

was it distant eighteen inches. Peritonitis was present in almost every instance.

I am going to quote from an excellent paper by Dr. W. W. Keen, of Philadelphia, on "The Surgical Treatment of Perforation of the Bowel in Typhoid Fever," published in the Philadelphia Medical Journal, of Nov. 4, 1899.

In 1898, he collected 83 cases of operation, of which 67 died, and 16 recovered, a recovery rate of 19.3 per cent. The first operation was done in 1884, and these cases were reported between 1884 and 1898, that is to say, during fourteen years.

During the eighteen months following this he found reported 67 cases, of which 49 died, and eighteen recovered. This makes altogether 150 cases, in which there is a recovery rate of 22.7 per cent. In contrast is the estimate of Murchison that the recovery rate in unoperated cases is only 5 per cent. He says that operation should be done in every case of perforation unless the condition is such that recovery is evidently hopeless. Perforation occurs quite as often in mild cases as in severe, and possibly even more frequently. One case was operated on twice, with a fatal result, another three times, and yet recovered. Age seems to have considerable influence on the recovery rate. Analysis shows that from fifteen to twenty-five is the most unfavorable age to operate, while the most favorable periods are over twenty-five and especially under fifteen.

Sex, too, seems to have considerable influence on the mortality rate. In 121 cases, of which 102 were males and 19 females, 83 of the males died, and 19 recovered, a recovery rate of 18.6 per cent. Of the females, 11 died and 8 recovered, a recovery rate of 42.1 per cent. In other words, while the number of operations in males has been over five times as many as in females, the recovery rate of females has been over twice that of males.

Next, as to the recovery rate in the various weeks of the disease. The mortality rate of the second and third week is by far the worst, yet even these two weeks yielded a recovery rate of 16 per cent. In the fourth week this rate is doubled.

Next, as to the time for operation. He claims that the best time is during the second twelve hours after perforation, and even if perforation is diagnosed earlier and there is profound shock, he thinks that operation should not be done until this has passed off. In cases, however, where there is no shock, most surgeons will agree that the abdomen should be opened at the earliest moment. Cushing and Taylor take exception to this, and state that the shock is due to sepsis, and not to perforation, and that the

quicker the operation is done, the better for the patient. Cushing has proposed to operate in what he calls the "preperforative" stage. Keen urges that the surgeon be called in at the earliest moment, when any symptoms indicate possible perforation.

Next, as to the use of an anaesthetic. Cocain is recommended instead of a general anaesthetic. This was first used by Cushing in two cases. He says that local anaesthesia is a great step in advance, and that he will never use general narcosis again in typhoid.

Finney adds the suggestion that in any case in which diagnosis is obscure, and there is reason to suspect the existence of a perforation, a small incision be made under cocaine anaesthesia, and cultures be taken from the abdominal cavity.

The exploratory incision would be followed by very little disturbance to the patient, and very slight risk. Still more, if we can anticipate both shock and sepsis, by diagnosing the preperforative stage, we shall have made an important further step in advance.

A very brief summary will be sufficient to indicate the further technic. The incision would be best made in the right linea semilunaris or through the rectus muscle. If such a general peritonitis be present that this will not enable us thoroughly to cleanse the abdominal cavity, a second incision may be made in the left iliac fossa. Personally, I prefer a median incision.

The perforation should be sought: First, in the ileum; secondly, in the adjacent cæcum and appendix; and thirdly, in the sigmoid. When found, the perforation should be sutured without paring the edges.

Just a word in reference to the sub-phrenic abscess. The abscess in this case was a posterior one, and the pus had evidently accumulated in the retro-peritoneal tissues, inflammation having caused adhesion of the opposing layers of the lesser sac of the peritoneum, which formed a very strong barrier against the pus passing down into the general peritoneal cavity.

In the case of a sub-phrenic abscess developing in connection with ulceration of the stomach and duodenum, pus is most commonly found within the lesser sac of the peritoneum. As regards the symptoms of a sub-phrenic abscess, there will be, in addition to the usual symptoms of a collection of pus, elevation of temperature, rigors, perspirations, etc., tenderness over the liver, and often a slight pleurisy, with increased liver dullness and bulging of the right side.

Then we have the "diaphragm phenomenon," which is the existence of a shallow depression which moves with respiration, across the intercostal space to the left side, as the diaphragm ascends and descends. On

palpation a collection of fluid may be felt. Greig Smith draws especial attention to the significance of a line or band of induration and resistance felt through the abdominal wall, moving with respiration. This band is due to the presence of adhesions which limit the abscess cavity below.

The patient was present and said he was enjoying excellent health and had gained 30 lbs. in weight since leaving the sanitarium.

THE VALUE OF GENERAL READING TO THE YOUNG PRACTITIONER.*

By H. S. HUTCHISON, M.B., Toronto General Hospital.

TO be widely read is to have an accomplishment which holds a high place in the estimation of the world. That so few possess it must seem remarkable, when it is considered that of all the methods of self improvement, apart from one's life work, general reading stands as the most conspicuous for combining accessibility with both pleasure and usefulness.

For the young medical man, however, to consider general reading a mere accomplishment, by all means to be acquired by those who have abundance of time, but having no place in the day of a fairly busy doctor must be a grave mistake. For a knowledge of literature, slowly but surely, is coming to be a factor absolutely essential to success. Far from inflicting itself as a drudgery however, it offers him actual value of a most practical character, and is willing to afford him a pastime of the highest order.

In advocating a pastime to be universally acceptable to a body of men so vast, one not speaking from the actual experience of years, must, under ordinary circumstances, hesitate. When, however, the shrine of the Goddess of Letters is to be the place of common worship confidence may be assumed on the subject by the humblest. On the pleasures of reading, essays might be written. Here, it is only necessary to point out that the enjoyment of these pleasures combines perfect mental refreshment with bodily quiet and comfort, in a way acceptable to none more than the practitioner of medicine, fatigued with the rounds of a day. To adopt from the outset a recreation of necessarily in-door nature to the total exclusion of others more beneficial physically, would be a course far from sensible. There are few of the sports, however, which do not make calls on the time soon certain to be felt too great for even the commencing practitioner, and prosperity bringing with it as it must, more open

* Read before the Toronto Post-Graduate Society, Dec. 4, 1901.

air activity, can look in no more profitable direction for pastime than the the ever present book-shelf.

In respect of the actual practical value of general reading to the busy medical man, let us first look into the characteristics which make a writing great, be it novel, essay or poem. As an illustration may be used the novel, because the essence of what can be said in regard to it will be found to apply also to the others. In works of fiction we find a story running connectedly throughout, and at different junctures scenes of more than ordinary interest. In a novel of exceptional merit some of the success is due no doubt to the construction of the story, and the way in which the scenes are colored, but these do not form the true substance of the work at all. The true substance is the exhibition of human nature. This must be done in a way that will appeal to all, and must have for its characters genuine representations of actual men and women, acting, thinking, and speaking as people do, or have done.

The writer of such must be a person of no mean ability. His insight into human nature and human motives must be extraordinary. He must be a man of the world, having had wide experience of actual happenings, and must be a careful student of the past. Most of all, however, we are told, he must possess a *unifying principle*. This, attained to only by deep reflection on life, enables him to see, no matter in what sphere he may be placed, the very core of life in all its sides, the very first principles of human tragedy and comedy.

Now are not the powers which such an one displays the very ones which every young medical man who intends to build up a practice should strive to acquire? Coming into relationship with our fellowmen of the utmost intimacy possible, what class of men can require more, that this great human nature shall be an open book? The meeting half-way of delicate questions from embarrassed patients, the preservation of dignity in trying circumstances, the judicious handling of grave forecasts, are a few examples of occasions demanding of the physician a careful previous study of like situations. In other words, he too must possess a unifying principle, and nowhere can he acquire it more readily than in the works of the masters.

A decision of the utmost importance for a young man to make once and for all, is that as to whether conscience or selfish ambition shall have the right of way in his actions. For us young medical men this problem assumes most serious proportions, for grave indeed, for humanity at least, must be the consequences of the adoption by any of no definite constant course, and graver one of personal advantage entirely. To the help of all in this great determination, comes reading. Biographies pleasurable to

read, readily to be obtained, state actual facts of the lives of men of both modes of action. Essays place within the reach of all, the thought of great minds who have been confronted with the same question. One may read the life-story of a Mirabeau or a Talleyrand, and estimate for himself the measure of success which in these cases attended the annihilation of moral self. (It is significant that in other pages than those of British history must we seek to find lasting conspicuous figures of this type). Again, one may read the biography of the cruelly ambitious Napoleon and then that of the conscientious Cromwell, and finally in an essay by one of the world's greatest thinkers, see the motives, actions and success of these very two contrasted. These men all shine forth as having individually given one or other course the best trial possible to human soul. We may with but slight trouble learn of their every step. What folly then for any to map out his course without taking advantage of the fund of information which literature silently offers.

It is interesting to note that whichever course one may select, he will still find reading indispensable. Amongst others, the very characters above referred to found it so, and it is told of the great Napoleon that he never travelled any considerable distance in his coach without being literally surrounded by a fresh stock of works of value, which were eagerly devoured, and then, to allow of ordinary comfort, had to be thrown out of the window.

In still another direction, may reading be said to yield practical value to the physician. No matter how excellent a man may consider his methods of working to be, he must always acknowledge the possibility of better ones. If it be impossible to have the advantage of personally observing such, he may at least learn of them from the literature. In connection with work in medicine, there is plenty of biographical material to be procured containing information of this very nature, and the fact that it comes necessarily from the old world, where medicine is more classical, in no way detracts from its usefulness. A description of the marvellous capacity of work, and the great versatility, of some master must forever leave its impress on the memory to be a stimulus to higher attainment.

If any, on careful consideration, cannot see in such advantages sufficient inducement to give to literature systematic attention, let him now look at the necessity for doing so, which is coming to stare him in the face.

The position of the medical man has always been one commanding a more than ordinary amount of respect. Few men, even in public positions come in during their daily rounds, worthy as they may be, for display

toward them of deference from so many individuals, as the busy practitioner. Till the present age, the condition of the mass of the people with regard to education has been poor. · Nowadays however, there is a change sweeping over all civilized communities. Well-read men abound everywhere. Merchants, financiers, and men in humble walks of life, are finding the advantages for their actual business of being men of knowledge. Their sons and daughters are early making strides into even scientific knowledge. Books are coming more and more within the reach of all. Technical schools abound where even the poor may make inroads into learning of all sorts. Minds formerly engrossed in small things are now, as a result of this change, and of the wider familiarity possible through the style of magazine now current, the freedom of the press and not a little through such modern inventions as the cinematographe, coming to comprehend life in all its sides. No matter to what extent civilization may advance, the acquired practical skill of the medical man must command at all times, consideration. In all but this practical knowledge, however, the laity is somewhat approaching the level of the professional man.

Is then the practice of medicine, heretofore giving to its adherents a position above the average in general society, in any danger of coming to be merely a high-class trade? Are the sacrifices made, the hardships gone through, even the sympathy displayed by the physician, in any risk of being set down as merely commodities to be exhibited as routine, and not in any way the true inclinations of one ennobled to some extent by having worked in the vast field of usefulness, and of grave responsibilities, which medicine presents? No; practically this is not what seems to be coming to pass at all. The masses are still prepared to respect, but are by their own advancement, raising the standards required of us. Woe to him, then that does not appreciate and hasten to profit by this necessity. He will be what Carlyle calls "the unable man" in the position of influence. If, however, he earnestly set about the acquiring of general information, he will, judged by the standards now fixed by the laity, be considered a worthy member of his profession, will help to maintain the rank of medicine with its sister professions of necessarily wide learning, and most of all, will approach the type of his British brother in medicine, as gentleman of culture.

Once having realized the value of general reading as a habit, it must be a weak character, who will not strive to adopt it. It may be urged that a busy practitioner, especially one settled in the country, has hardly time for medical reading, much less for that of any other nature. When however it is remembered that this other is recreation and that as years

roll by, it is one of the few pleasures likely to satisfy, and that true manliness is the direct result of reading and its accompanying thinking, objections must vanish. Practically it has been found that, with a definite system of even but fifteen minutes daily allotted time, in a year the fruits of our industry will be remarkable. There are, no doubt, some to whom literature, other than medical, has scant charm, but let them weigh its results and remember, that if they earnestly seek, they shall find.

RECURRENT GASTRITIS--GASTRO-ENTEROSTOMY.

By ERNEST HALL, M.D., Victoria, B.C.

D. M., aged 54, stone mason, fifteen years ago, was taken with severe pain under ribs of left side and vomited bile: after five weeks suffering recovered with the exception of pain, which continued intermittently, occasionally severe, until 1894, when he had an attack of diarrhoea, with pain in the left side, and passed tarry stools. Continued fairly well till March, 1899, when symptoms become distressing, pain severe, with attacks of dizziness and vomiting, each lasting about a week. These attacks increased in severity till in September, 1899, when he was forced to cease work, and became confined to bed, the pain being only controlled by large doses of morphia. Vomited large quantities of greenish fluid, and black masses resembling disintegrated blood. This would be followed by vomiting of particles resembling coffee grounds. A diagnosis of cancer of the stomach was made by six medical men, who gave him only a short time to live. I saw the patient about this time, and while not disagreeing with a diagnosis of cancer, could find no tumor nor thickening of the parts. Patient had been vomiting large blood clots, and was very much emaciated. Nitrate of silver pills were ordered. Drachm doses of milk were retained; patient gradually improved. In December he had a severe hemorrhage which left him very much exhausted, but he rallied rapidly, and in a few weeks enjoyed good health, though the pain continued. In August, 1900, he had another slight attack. May, 1901, I was again consulted: he had suffered severely from constipation, always feeling better after a thorough saline purge. An examination showed dilatation of the stomach. Upon a diagnosis of recurrent ulceration and pyloric stenosis, I recommended operative measures to which he agreed. On July 12th, Vancouver City Hospital, assisted by Drs. Jeffs, McKechnie, and McEwen, I opened the abdomen, finding the stomach unusually dark-colored, the walls very much thickened,

especially towards the pylorus, no cicatrices nor adhesions. All other organs were healthy. The jejunum was attached to the posterior wall of the stomach (Von Hacker's operation) by a Murphy button, reinforced with silk sutures. During the operation pulse ran as high as 210, twice respiration became suspended. After the operation the patient was very weak, but under the care of Drs. Jeffs and McKechnie, for whose skilful attention great credit is due, he made an uninterrupted recovery. He has since gained 45 lbs. and returned to work. The button passed on the fourteenth day.

In no department has surgery made such inroads as in the treatment of diseases of the stomach. Gradually the knife is displacing the pill,—and the end is not yet. Shall it soon be said that disorders of the stomach that do not yield to regulation of the diet, and to surgical means, yield only to the Great Harvester? The improved methods of diagnosis of obstructive conditions, and the application of the principle of drainage, to over distended cavities, have been the factors in the evolution of gastric surgery. The early recognition of malignant diseases is still the uncertain problem. We would hail with delight the seer who would offer us a greater degree of accuracy in this matter.

Early diagnosis is necessary if we hope to be as successful here as in other departments of abdominal surgery; and if our results are to reflect credit, radical operations must be done before the patient becomes exhausted. It is neither creditable to the physician, nor encouraging to the operator to find a patient weary with treatment for chronic dyspepsia present an irremedable malignancy.

Greater familiarity with the many excellent methods of gastro-enterostomy is gradually relegating the severer operation of pylorotomy to the back ground; in fact there is reason to doubt if there be any conditions that formerly called for pyloric extirpation, that cannot be more satisfactorily relieved by gastro-enterostomy.

The less serious, and manipulatory easier method, is yielding such excellent results that surgeons are becoming more and more disposed to give their patients its benefits in cases that only recently were admitted to be within the exclusive domain of the physician.

With reference to the gastric opening—so long as the structures are firm, the opening sufficiently removed from diseased parts, and located near the lower border of the stomach, there appears to be very little preference for the posterior surface, as the anterior anastomosis gives very satisfactory results, yet the anatomical relations appear to give preference to the former. If the drainage is as satisfactory as in the posterior method, the anterior method is to be preferred in many cases as infinitely

easier from the standpoint of both operator and patient. While posterior anastomosis entails a larger abdominal wound, greater exposure of the intestines and at times no small amount of manipulation with its corresponding amount of shock, the anterior operation is one of the easiest and quickest of all abdominal operations, and can be done with the minimum of anaesthesia or with cocain. In this method there is greater tension at the gastro-intestinal junction requiring additional supporting sutures at the upper border of the attachment. The part of the bowel to select should be that part of the jejunum as near to the duodenum as can be easily appropriated without undue traction or extensive disturbance of the parts. Emaciated and exhausted patients do not bear manipulations in the region of the solar plexus without experiencing considerable shock, infinitely more than in the same amount of manipulation of the pelvic organs. The recently introduced method of gastroplication effects nothing that cannot better be done by anastomosis and further, it is an unsurgical procedure, inasmuch as intra gastric fissures are left caused by the foldings of the stomach wall, in which particles of food are apt to be retained and undergo fermentation, thus to a great measure defeating the object of the procedure.

A CASE OF OTALGIA.

B. F. BUTLER M. D. London.

H—A lad of 15 years had suffered for a year from such a distressing pain in his right ear, that the family physician found it necessary to administer hypnotics in order to procure sleep. An examination of the ear was negative, and suspecting a dental origin, I examined the teeth, although in reply to a question, the patient was positive that his teeth were sound, as he had not experienced any trouble in connection with them. A small discolored spot, a little soft, was found on the 2nd lower molar on the right side, and a gentle tap on the tooth produced a little extra sensitiveness. Extraction of the tooth was followed by prompt recovery.

Diseased teeth are frequently responsible for otalgia, but in many cases the connection is quite evident, and the report of this case is merely to show the necessity for careful examination of the teeth, although the patient may not have been aware of any defect

DISEASES OF THE NOSE AND THROAT.

Conducted by D. J. GIBB WISHART, B.A., M.D., C.M., L.R.C.P.

THE EARLY APPEARANCE OF LARYNGEAL TUBERCULOSIS.

AN interesting contribution upon this live subject appears in the December number of the *Laryngoscope* in a paper read by Holbrook Curtis before the New York Academy of Medicine. The writer considers that the weight of evidence is in favor of the theory that there is a secondary sub-mucous infection either through the lymphatic and vascular system, or through the lymph spaces by infection of their endothelial lining membrane. He considers that the flaw in theory that the bacillus laden sputum causes the onset of the disease in the larynx by contact is that it does not explain the immunity from laryngeal tuberculosis of the majority of phthisical victims in the advanced stage of the disease while there are many cases in our clinical experience in which the pulmonary disease has not advanced to such a stage that sputum is an appreciable factor.

Dr. Curtis does not deny that the pharyngeal lymphatic ring may be the seat of a primary infection, but thinks that the tendency of tuberculosis of the tonsils is to become latent. Tubercle most frequently appears in the sub-mucous layers, more or less distant from the epithelium and often the mucous membrane is of a healthy type, until the swelling caused by the rapid invasion of the tuberculous infiltration lends credence to our suspicion of the existence of the dreaded disease. In several of the writers cases the presence of the bacilli was never discovered in the sputum until after the edematous and ulcerative stage had commenced, nor was the so-called characteristic pallor of the patients larynx or pharynx visible. In fact no physical sign gave warning of the approach of the disease except that the vocal cords were sluggish in response to vibratory movement and the morning temperature of the patient was sub-normal (1 to 2 degrees).

It is a mistake to look for only for superficial erosions in suspected cases much more important is the close examination of the inter-arytenoid space and the crenated appearance of the fold. Before any edematous condition of the arytenoid tissues supervenes, we must watch carefully for the sub-mucous yellowish gray spots which appear sooner or later beneath the translucent membranes of this region and the aryepiglottic folds. It is in these cases early diagnosed that we may hope to obtain

brilliant results from the injection of guaiacol, carbolic acid or other antiseptics into the tissues.

Another indication of the possibility of a tuberculous infection in its initial stage is a simple persistent congestion of one cord with a slightly swollen appearance, the mucous membrane being markedly vascular over the entire cord.

In the early manifestations of laryngeal tuberculosis there is always a feeling of general languor and debility complained of, far in excess of that which the lung complication alone would cause. This exhaustion must be regarded as pathognomonic when it occurs with a sub-normal morning temperature and evidence of laryngeal disturbance and lack of mobility of the cords, which latter may arise either from a beginning muscular infiltration or from pressure upon the recurrent nerves exerted by an enlarged lymphatic gland, and in the latter case the disturbance of motion is generally unilateral. Following closely on these symptoms comes the consciousness of the possession of a larynx, which in turn ushers in the clumsy impression in swallowing and vocal fatigue in talking.

In the discussion which ensued Dr. Chappell spoke of observing a laryngorrhea, which in many cases had preceded any changes that could be observed with a laryngoscope, and deprecated curetting the larynx, which he looked upon as a very unwise and unfortunate practice. Dr. Quinlan was equally severe upon surgical interference, which seemed to him almost a relic of barbarism.

SOME OF THE BACTERIA FOUND IN THE NOSE.

IGLAUER, of Cincinnati, contributes to the November *Laryngoscope* an account of a series of experiments made by him last year in the Pathological Institute of Vienna.

The prime object of this work was to search for the diplococcus intracellularis meningitidis and for the influenza bacillus in the cadavers of persons who had not had either disease. Thirty-four cadavers were examined. The bodies had previously been kept in the cold cellar prior to the examination. The examination was made as soon after death as possible. After the brain had been removed in the usual manner a transverse cut was made through the base of the skull in such a way that it extended into the pharynx and exposed the posterior nares.

A sterile platinum loop was then introduced into the posterior nares, and with it mucus was removed from the nose. The first drop was used for smear preparations. The loop was reintroduced from one to three times, and the mucus thus collected was mixed with a few c.c. of sterile

bouillon. From this bouillon mixture three plates were immediately inoculated, *i. e.*, one agar plate, one serum agar plate, and one blood-agar plate.

The smear preparation was stained according to Gram and examined for bacteria.

After twenty-four to forty-eight hours the plates were removed from the incubator, and the colonies identified as nearly as possible. These observations differ from those previously reported, in that the cultures were taken from the posterior nares of the cavader.

A summary shows that the staphylococcus pyog. aur. was present in eleven of the twenty cases, the staph. pyog. alb. in six of the cases, the diplococcus pneumonia (Frankel-Weichselbaum) and the colon group were each represented eight times; the streptococcus pyog. in six of the cases; pseudo-diphtheria group, three times. The influenza bacillus, the subtilis and the B. capsulatus group and the yeast plant were each found in one of the cases. The bacillus pyocyaneus was found in two of the cases. Besides these, eight unidentified forms were noted. Thus a total of nineteen varieties was found.

No experiments were made as to pathogenicity for animals.

The additional fourteen cases of the thirty-four showed some marked pulmonic lesion, and hence are given in a separate table.

(The pulmonic condition was not the cause of death in most of these cases. The weight of evidence is strongly to the effect that the normal nasal mucus contains bacteria. However, the flora of the nose cannot be as abundant, as we would suppose from the number of bacteria inspired; for the following reasons:

1. The surface over which the bacteria are scattered is rather large. From measurements I have made I find it to be about 154 sq. cm. in the nose, and 25 sq. cm. in the naso-pharynx.

2. A certain number of bacteria must reach the naso-pharynx, from which they are swallowed and digested.

3. The flow of mucus and serum, together with gravity, tends to carry away the germs.

4. The nasal mucus is not a good culture medium.

5. The organisms which have lodged in the nose are expelled by the ciliated epithelium with great rapidity.

6. A recent work seems to show that the nasal epithelium has bactericidal power.

The practical conclusions to be drawn are:

1. It is advisable to sterilize the vestibule of the nose before operating.

2. After operations the nostril on the operated side should be closed with a piece of cotton to act as a filter.
3. Plugging of the nasal cavity after operation is, as a rule, inadvisable, as it tends to retain the nasal secretions.
4. Nasal wounds do not heal by first intention, owing to the presence of bacteria. This also explains the occurrence of secondary hemorrhage.
5. Fever after operations and the few deaths recorded have probably been due to the presence of pathogenic micro-organisms in the nose.

FALSETTO VOICE—TREATMENT.

DR. ARTHUR B. DUEL presented a young man, a native of Bermuda, with a falsetto voice. These cases are not uncommon, yet very little has been written about them. A cure had been effected in this case largely by suggestion. By holding down the patient's larynx he could be induced to speak in a proper voice, but would at once break into a falsetto on relinquishing the hold on the larynx. He had been assured that his trouble could be quickly overcome by holding the larynx in a certain way and practicing a few scales. He had been very quickly cured, and now found it almost impossible to speak in his old voice. This brings out very clearly the fact that this form of functional neurosis can be easily cured by proper measures.—*Selected.*

STENOSIS FOLLOWING INTUBATION.

DR. J. A. KENEFICK presented a child that had come to the Manhattan Eye and Ear Hospital in June, and had been transferred to the Willard Parker Hospital for diphtheria. He had been discharged from there on October 12. While at that hospital he had been intubated twenty-eight or thirty times. Dr. Kenefick had then treated him with tubes, gradually increasing in size, beginning with the two-year old and finally using a specially made six-to-eight tube. On December 19th, he had been found without his tube, and had been without it ever since, though before that he had been able to go without it only for a short time. The boy's general condition had improved, and he could now phonate quite well. When he had first intubated, the feeling had been that of passing the tube through a mass of granulation tissue, but this had gradually become less distinct during the treatment.—*Selected.*

DEPARTMENT OF THERAPEUTICS.

Conducted by J. T. FOTHERINGHAM, M.D., C.M.

SODIUM CINNAMATE.

THE writer has found this drug apparently of great service during the past few months in a case of tuberculosis, of which the appended notes are taken from his case book. Twice a week or thereabouts it was injected hypodermically into the fleshy part of the thigh, the initial dose being 15 m. of 5 per cent. watery solution. It has never caused any local irritation or trouble. The dose was pushed up to 30 m. of a 10 per cent. solution, and is still being so used. The rationale of the treatment is that the very marked leucocytosis produced must favour the fibrosis going on in the local contest between the leucocytes and invading bacilli, and tend to wall off the cavity and turn it into a smooth walled, non-secreting innocuous space. Systematic careful observation of this patient showed as satisfactorily as can be shown short of actual post mortem inspection, that not only did the surrounding area of pneumonia subside, the sputum grow scanty and finally disappear, the cough almost disappear too, and the temperature become normal, but that the bacilli have almost entirely disappeared, and the apparent size of the cavity decreased from that of a walnut to that of a filbert. The local tuberculous process seems to have been arrested. We cannot of course ascribe all the improvement to the one drug. Creosote has been employed steadily in doses as large as 15 m. or so thrice daily. Ferrol, and other good food has been taken in as large a quantity as possible, and though she has steadily refused to leave home for sanitarium treatment and has therefore had nothing like the amount of open air that one would like, she has gained in weight.

The class of cases in which the drug seems to be useful is those in which the process is well localized, and only a single focus exists. One could not *a priori* expect much in large pneumonic or acute miliary forms; and probably its results would be less favourable in basal than in apical deposits. The writer thinks that it will be found a valuable assistance to other means of treatment, in all cases in which fibrosis is going on, particularly if as above stated the disease is not very widely disseminated in the lung.

The writer is hoping soon to have a series of cases from which some

useful generalization can be made, and will be glad to have any of his readers report cases from their practice.

Miss J. H. M., aet. 19. First seen Aug. 5, '01.

Fam. Hist. Four mother's brothers died of phthisis.

Personal Hist. History of malarial fever (*sic*) and bronchitis for one year at age of 12 years, followed by five hemorrhages from the chest.

Present Condition. Weight decreasing, 110 lbs. Cough, with free expectoration, containing *tubercle bacilli*.

Aug. 5th, '01. Temperature 101 F. Pulse 120, at noon to-day.

Physical Examination. Extensive right apical consolidation to level of 4th rib in front, same corresponding area behind, with small patch of prolonged breath sound over margin of left lung beneath 2nd, 3rd and 4th ribs in front.

Large and small râles (bronchitic) pretty widely heard scatteringly over both lungs.

During September she had two fairly large hemorrhages with several smaller ones.

During October, November and December, weight ran up to 114 lbs. Her temperature remained normal most of the time, and general improvement occurred as above noted.

A few of the injections with blood count appended, are as follows :

Sept. 20. Sod. Cinnam. $\frac{1}{2}$ gr. Blood count 5 hrs. later showed R. b. c.—5,600,000. W. b. c.—11,000.

Oct. 27th. Sod. Cinnam. 1 gr. 5 hours afterwards w b. c. were 27,600.

Nov. 9th. Sod. Cinnam. 1 gr. W. b. c., 25,000.

Nov. 23rd. Sod. Cinnam. $2\frac{1}{2}$ gr. W.b.c., 24,000. R.b.c., 6,168,000

On Feb. 18th, 12.30 p. m. Temp. 97° F. Pulse 110. Resp. 24. Taken in my office, after a considerable walk. Weight 114 $\frac{1}{4}$ lbs.

One slide showed three bacilli. Sputum very scanty. Cough slight.

THE ARREST OF OBSTINATE HICCOUGH.

VARIOUS mechanical measures have been suggested for this rather uncommon, but very alarming and intractable condition. Laborde's method of stimulating the respiratory centre, by vigorous rhythmical traction upon the tongue, for instance, in suspended respiration in drowning accidents, or in the asphyxia of the new-born, has been found very useful. Noir (*Progrès Médicale*, January 6, 1900,) relates the case of a nervous girl, aet. 6, much exhausted by six hours of hiccough, immediately and permanently relieved by one minute of traction upon the

tongue. This would seem to have been steady, not rhythmical traction, and to the practitioner outside of France would suggest that the hiccough was hysterical. The same writer details a case of advanced diabetes, with terminal tuberculosis, relieved by Laborde's method in two minutes of a hiccough which had for several days resisted all other remedial measures.

Other mechanical means employed have been : (1) Galvanization of the phrenic nerve. (2) Erb's method of faradism to epigastrium. (3) Leloir's method of compression of the left phrenic nerve. (4) Nothnagel's method of forcible elevation of the leg and bone of the fingers.

ETHER-NARCOSIS.

TWENTY drops of oleum pini pumilionis added to 200 grammes of ether, just before administering the latter, prevents the secretion of mucus. This gives but a slight piny odor to the ether, and makes the latter less objectionable to the patient. This mixture has been used in about five hundred cases, with great success. Even when bronchitis, phthisis, empyema, or senile emphysema existed, these conditions did not grow worse. Ernst Becker (*Centralb. f. Chir.*, June 1, 1901).

PHYSOSTIGMINE IN PARESIS OF INTESTINE.

PHYSOSTIGMINE in doses of from $\frac{1}{120}$ to $\frac{1}{80}$ grain for tympanites in different intestinal disorders has given excellent results. The drug is given by mouth three times daily. Von Noorden (*Berliner klin. Wochenschrift*, Oct. 21, 1901).

THE TREATMENT OF HIGH BLOOD-PRESSURE IN RENAL DISEASE.

CARTER, in a research on the conditions of blood pressure in renal disease (*Amer. Jour. of the Med. Sci.*, December, 1901) has been able to establish certain important practical conclusions as follows regarding treatment : (a) When the blood pressure is high, as in chronic nephritis, and accompanied by symptoms of uraemia, the best treatment is venesection to the extent of withdrawing 5 to 8 ounces of blood, following by saline infusion of 1,400 to 1,500 c.cm. of hot normal saline solution. (b) Sodium nitrite in full doses (3 grs. every four or five hours) should be given in combination with the above. (c) The combined treatment as above indicated is almost invariably marked by improvement. (d) The average mean blood pressure in chronic nephritis is 62

mm. of mercury higher than that of acute nephritis. (e) The blood pressure in acute nephritis is about the same as in health; and when the pressure rises to the extent of 60 mm. higher than in health, the presence of chronic nephritis, or other cause of increased blood pressure, may be suspected. (f) Symptoms of arterio-sclerosis are often clinically combined with high blood pressure, and the combined treatment (with venesection, saline transfusion, and administration of nitrites) is thus also indicated as specially valuable in averting threatened cerebral hæmorrhage, which is a common sequel in arterio-sclerosis.—*B. M. J.*

PRESCRIPTIONS.

1. For recurrent migraine during the attack :

R.	
Tr. Gelsemii	ʒii ss.
Antipyrin	ʒj.
Sod. Brom.	ʒij ss.
Aq. Chlorof.	ad ʒij. M.

Sig. A teaspoonful in a little water every hour till relieved.

If the attack be characterized by marked pallor a nitrite, say one grain of Sod. Nitrite, will help, or half min. doses of the Solution of Nitroglycerine.

The writer has recently controlled for four months a previously constantly recurring migraine in a broker of about 40 years of age by gr. $\frac{1}{150}$ nitroglycerine in pill after each meal.

2. For intestinal flatulency and putrefaction, either in adults or children, not of acute type, the writer finds much assistance from a mixture such as this (doses for adult):

R.	Resorcin	ʒj ss.—ij.
	Hydrogen Peroxidi	ʒiv—vj.
	Glyc. Pepsini (B.P.)	ʒj.
	Ac. Phos. Dil	ʒiii.
	Syr. Limon.	ʒi.
	Aquae	ad ʒiv. M.

Sig. A dessert spoonful after food, three times a day.

Suitable diet must, of course be specified.

MENTHOL INHALATIONS FOR THE RELIEF OF COUGH.—Saenger (*Therapeutische Monatshefte*, Vol. XV, No. 7, 1901) offers a number of suggestions for the administration of menthol in vapor form to take the

place of opiates in the treatment of cough. A few crystals may be placed in a teaspoon and warmed over a candle flame for 10 to 20 seconds until menthol fumes are given off; this may be repeated as often as desired. As an alcoholic solution of menthol (40 to 50%) evaporates without heating it may be rubbed between the palms, and the hands carried to the nose; or the solution may be dropped on a chloroform mask. A more radical measure consists in intralaryngeal injections of olive oil containing menthol in solution; this may, according to Saenger, be carried out by lay attendants. No rule can be given for the number and duration of the inhalations; they must be regulated by the needs of the individual case. The treatment is advised in tuberculosis, chronic bronchitis and whooping-cough. It should not be employed in acute inflammatory diseases of the lungs and pleura, especially if hemoptysis has recently occurred; nor should it be used to allay the cough following an endolaryngeal surgical operation.—*American Medicine*.

TREATMENT OF LARYNGISMUS STRIDULUS.—The following is recommended by *Merck's Archives* in treatment of laryngismus stridulus occurring in children two years of age or older:

R	Tinct. belladonnæ.....	m. xii	75
	Chloralis hydratis.....	gr. xx	1 30
	Potassii bromidi.....	ʒi	3 75
	Syrupi aurantii.....	ʒiv	15 00
	Aquæ destil.....	ʒii	60

M. Sig.: One teaspoonful every hour until difficult inspiration is relieved.

TREATMENT OF THE PAIN OF DENTAL CARIES.—Redier (*Journal des Praticiens*, March 9, 1901), recommends the following for relief of the pain of dental caries:

Tincture of benzoin.....	1½ drams
Tincture of opium } of each.....	½ dram
Chloroform }	
Or,	
Tincture of benzoin.....	1 dram
Tincture of opium } of each.....	½ dram
Chloroform }	
Creasote (pure) }	

The second formula is applicable in rebellious cases, when sensibility is excessive. A small pledget of absorbent cotton is dipped into one of these solutions and inserted into the cavity. A second tampon saturated with a resinous substance is then inserted over the first. Contact with saliva causes precipitation of the resin in the meshes of the cotton and

thus forms a more or less impermeable dressing. The following formulas may be used for this purpose :

- (1)
Benzion } equal parts
Alcohol, 80% }
Dissolve, let stand and then decant.
- (2)
Camphor..... 30 grains
Mastic..... 75 grains
Balsam of Peru..... 30 grains
Sandarac..... 1 ounce
Ether 65% } of each..... 1½ ounces
Alcohol 90% }

The first formula is commonly employed, the second gives good dressing suitable for broad, shallow cavities. Further treatment should be carried out by a dentist.—*American*.

SWEATING FEET.—Professor Kaposi recommends the following :

R. Sodii salicyl, 30 grains.
Kali permangan., 1 drachm.
Bismuthi subnit., 12 drachms.
Pulveris talci, q. s. ad 3 ounces.
M. et ft. pulv.

Sig: Dust on feet and into stockings and shoes every morning.
—*Sajous Cyclopaedia*.

ASTHMA.—Use either belladonna or lobelia. The reason why these drugs have not a greater reputation in this malady is, that they are not given in sufficiently large doses. Either must be administered in quantities sufficient to produce the physiological effects.—*Salter (The Lancet, London)*.

CORNS—Perhaps the best method for securing the partial removal of corns by the application of chemical substances is that recommended by Unna. A ring of glycerin-jelly is painted around the circumference of the corn so as to form a raised rampart. A piece of salicylic plaster-mull is then cut to the size and shape of the central depression, and applied to the surface of the corn. This is then covered with a layer of glycerin-jelly, and, before it sets, a pad of cotton-wood is applied to the surface. This process is repeated as often as is necessary, until the horny layer of the corn separates and is cast off.

If the point of a sharp, thin-bladed knife be introduced at the groove which runs around the margin of the corn, and be made to penetrate toward its central axis, by the exercise of a little manual dexterity the horny part of the corn can be easily made to separate from the parts

beneath. This method of removal is one which is much in favor with chiropodists.

Any method of treatment, however, to be curative must secure the removal of the entire corn together with the underlying bursa.

Having taken every precaution to render the operation aseptic, a spot is selected for the injection of the anæsthetic solution. At this point the skin is rendered insensitive by the application of ethyl-chloride, and 5 minims—more or less—of a 4-per-cent solution of eucaine is injected into the subcutaneous tissue beneath the corn. Having waited a few minutes, the superficial parts at the site of the incision are rendered insensitive by ethyl-chloride. Anæsthesia is now complete, the process itself being painless, and the operation may at once be commenced. Two hemielliptical incisions meeting at their extremities are made through the skin around the circumference of the growth, care being taken that they penetrate well into the subcutaneous tissue. Seizing the parts included in the incision with a pair of dissecting forceps, a wedge-shaped piece of tissue—including the corn, a layer of skin and subcutaneous tissue, and the bursa, if present, is dissected out. The oozing is pretty free, and it is sometimes necessary to torsion a small vessel; but the hæmorrhage is never severe. The edges of the wound are brought together by one or two fine sutures; an antiseptic dressing is applied, and the wound left to heal—primary union in a few days being the rule. The net result is the production of a layer of scar-tissue at the former site of the corn. It might be thought, perhaps, that the formation of a scar on an exposed position, where it was liable to be subjected to pressure and friction, would lead to untoward results; but such in practice is not the case.

The chief advantages to be derived from the complete excision of corns are that, as a method of treatment, it is safe, speedy and painless; while the results, as far as a cure is concerned, are permanent and effected at a minimum of time and trouble.—*Edinburgh Med. Jour. and Sajous Cyclopaedia*.

NASAL ECZEMA.—The syrup of iodide of iron, given to children afflicted with nasal eczema, and whose vitality is below par, will bring about better results than all the local applications in the list.—*Sajous Cyclopaedia*

ANTHELMINTIC ENEMATA.—Thread-worms and round-worms are both met with in the rectum, the former more frequently. Their presence in children is not infrequently the cause of prolapse. Strong solutions of

salt and water, or of quassia and water, will sometimes prove efficient. Or an enema composed of 1 to 4 drachms of spirit of turpentine mixed with the yolk of an egg, and added to 4 to 8 ounces of water, may be given repeatedly until the worms are destroyed. Two drachms of asafoetida or aloes in water also answer equally well.—*Maryland Medical Record*.

VERATRINE IN PRURITUS.—In the obstinate pruritus of women at the menopause Dr. Lutaud recommends the external application of veratrine, if the pruritus is localized. He orders an ointment of $2\frac{1}{2}$ grains of veratrine to an ounce of lard, to be applied morning and night. If the pruritus is general, he orders the drug internally; 1-180 grain in pill form once a day, gradually increased to six times a day, half an hour before meals or three hours after meals.—*Merck's Archives*.

HABITUAL CONSTIPATION—

R Sulphuris loti, $\text{f}\bar{\text{z}}\text{j}$.
 Potassi bitartratis, $\bar{\text{z}}\text{j}$.
 Pulv. sennæ, ziv .
 Syrupi rhei, $\text{f}\bar{\text{z}}\text{ij}$.
 Ext. cascariæ sagradæ fl., $\text{f}\bar{\text{z}}\text{ij}$.
 M. et ft. confectio.

Sig.: One teaspoonful at night to move the bowels.—*Journal of the American Medical Association*.

Pills for Use in Heart Troubles with Hepatic Congestion.

The *Gazette hebdomadaire de médecine et de chirurgie* gives the following:

R Powdered digitalis, }
 Powdered squill, } of each, $\frac{3}{4}$ of a grain;
 Scammony resin, }
 Calomel..... $\frac{15}{100}$ of a grain;
 Excipient, enough to make 1 pill.

M.

Five may be taken daily after meals for three days. Or this:

R Powdered digitalis, }
 Powdered squill, } of each, $\dots \frac{3}{4}$ of a grain;
 Calomel, }
 Watery extract of ergot of rye, $1\frac{1}{2}$ grain;
 Excipient, enough to make one pill.

M.

Five may be taken daily for three days, after meals.

MILITARY MEDICAL TOPICS AND NEWS.

Conducted by Lt.-Col. Nattress, P. M. O. M.D. No. 2.

RE-ORGANIZATION OF THE ARMY MEDICAL SERVICE.

The report of the Committee appointed by the Secretary of War and which was submitted in October last is not giving entire satisfaction judging from the comments we see. The chief features complained of are.—The institution of an Advisory Board which practically takes the place of the Director General who has always been the official head of the Medical Department and on the staff of the Commander-in-chief but who is not now even a member of that Board. His influence is impaired and the position vitiated.

The omission of a sanitary adviser from that board has been unfavorably commented upon.—Also again allowing some regiments to have their own regimental surgeons is looked upon as a retrograde step and one tending to split up the R. A. M. C. and form a sort of corps within a corps. Criticizing this feature a senior officer writes.—“To attach a medical officer to a regiment will impair his efficiency, by the example of the idle and stupid officer (*vide* South African war). It will cause two interests to spring up in the medical service, the regimental and departmental; as was the case formerly. It will destroy the doctor's independence as the sanitary adviser of the commanding officer, for if the doctor wants to live at peace and obtain his promotion he must be careful not to put forward a proposal to which the commanding officer objects. He ought to be as independent of the C. O. as the civil medical officer of health ought to be of slum landlords and jerry-builders. It is doubtful if any combatant officer can report fairly on a doctor for if the latter does his duty they must often be at loggerheads.—Strong objections are taken to the quiet shelving of “Old Netley” Queen Victoria's favorite military hospital. The course of this army medical school for “Lieutenants on probation” or young graduates from the English Medical Schools is to consist of only a two months training in hygiene and bacteriology, the very essence and specialty of their life's work—namely military surgery and medicine are not mentioned, a correspondent says:—“The great training school that Sidney Herbert and Florence Nightingale toiled to create is being quietly shelved or allowed to die of inanition. Nothing is said of its reform and indeed the study time there is reduced to two months.”

The best features of the new scheme are:—(a) Increased pay, (b)

simplification of the entrance examination, (c) provisions for hospital study periodically during the first few years of service, (d) rewards for special study and qualification, and (e) reduction of clerical labor.

Service in the R. A. M. C. has been exceedingly unpopular and as a consequence the Corps is very much under strength. It is hoped that some of the good points referred to will enhance its popularity and increase the supply of desirable young graduates in medicine and surgery, but unfortunately it is feared the all important feature has been again overlooked namely the status of the Corps. It should occupy in the *Army List* a place next to the other two scientific corps—the Royal Engineers and Royal Artillery. This would once for all solve most of the social troubles which have made service in the British Army uncomfortable for doctors, and has induced professors in medical colleges, and leading practitioners to advise students not to choose the Army.

SURGEON GENERAL OF THE UNITED STATES ARMY.

The Surgeon General in the U. S. Army corresponds to the Director General in the English Army. Judging from a Bill recently introduced by Senator Proctor so far as the head of the Department is concerned the mover of the Bill seems to have taken his cue from the report of Mr. Broderick's Committee in detracting from the dignity of the position. He proposes that the Surgeon General of the Army shall be filled by the detail of a medical officer of the army for four years who after the expiration of that time unless re-appointed shall return to the position and grade in the Medical Corps he would have held had he not been so detailed. The "Medical Record" says the majority of medical officers are opposed to Senator Proctor's bill believing that it not only diminishes the importance of the position and decreases its influence but also will have a bad effect in a political sense—reappointment for a second or a third term being a natural desire. It would seem rather an awkward position for the Surgeon General to occupy. He would scarcely be in a position to insist upon what he thought the best interests of the service and compliance with the same of medical officers over whom he was only in temporary control and later on under whom he might himself have to serve. Such anomalies do occur however in the service in other countries.

A QUICK RUN TO CAPE TOWN.

The British troopship *Victorian* with the second section of the Mounted Rifles under command of Col. Evans and No. 10 Canadian Field

Hospital made a record voyage from Halifax to Capetown, being only 23 days out. This is nearly a week faster than any previous transport. The Manhattan which carried the first section of the Mounted Rifles was 30 days on the passage.

THE ROYAL VICTORIA HOSPITAL.

Reference to historic Netley recalls my visit there during the summer of 1898 when I was detailed by the Militia Department for a short course at that military training school. The following is an extract from my diary of that date and which may be of some little interest:—

The Royal Victoria Hospital here is intensely interesting. It is beautifully situated on rising ground on the east bank of Southampton water, and is approachable by water—a pier being run out immediately in front of the hospital. I find, however, the Board of Trade will not allow the pier to be extended out far enough for transport ships to come along side and land the wounded—(something about interfering with the channel) hence patients are taken on to Southampton, landed there and put into cars and run out to Netley Station (about 15 minutes' trip). The ambulance waggons meet them there and take them to the hospital, a distance of about half a mile. The hospital will accommodate 1,100, but by putting up tents on the lawn, they have sometimes had as many as 2,000 patients. It is an immense three-storey structure, with a frontage of nearly a quarter of a mile. Along the front of each storey runs a corridor, mostly glass in front, with doors opening into the various wards as you pass along. The wards, which hold from 9 to 12 patients, are lighted by windows looking on to the corridors, supplemented by other windows opening directly out in the opposite wall.

* * * * *

In locating bullets the Roentgen or X-rays here find their most useful function, and they have a powerful and very complete apparatus. I saw a skyo-graph taken this morning of a hand of a chap just returned from Egypt, showing a starred fracture of the first metacarpal bone, with little or no displacement—an injury difficult to exactly diagnose without the use of this instrument.

Dr. Birkett and I are very much interested in the variety of cases shown us, and somewhat struck with the good results generally obtained here after operations. The building is well lighted and ventilated, and a walk through these long corridors (the longest in the world) this morning was both an instructive and interesting Sunday morning's work.

We met several of the professors and surgeons to whom we had letters of introduction, and they received us most kindly. We are off up to Salis-

bury to-morrow for the manoeuvres, but will return here for a few days for a further look round. I had intended staying here some time, but find there is no special course I can take ; only a matter of following the cases in the hospital, of which there are now about 850. Bullet wounds are in our line just now, but here of course we see only the results of secondary operations and after-treatment—not operations on the field nor anything differing materially from any good surgical hospital, so will not remain more than a few days.

THE MOSQUITO.

It almost appears evident that the careful research of the Military Medical Officer in various parts of the Globe—in West Africa in the Barbadoes in British Central Africa, in South Africa and in the East is about to reveal to the medical world the contagiousness of various diseases through the medium of the mosquito.—Malaria, Black water, Yellow fever, Dengue, Filaria Sanguinis Hominis etc. The destruction of the Mosquito is evidently quite as essential as the raid upon rats.

TELEGRAMS.

By arrangement with His Majesty's Government telegrams to friends in South Africa will be delivered in the field at 49 cents a word.

TREATMENT OF WHOOPING COUGH BY IRRIGATION OF THE NARES.

W. Lattey, according to *British Medical Journal*, states that the irrigation of the nares in pertussis should be more frequently employed. The child should be rolled up in a shawl with the arms confined, and placed face downward across the nurse's lap Tepid water should first be used with a soft India rubber tube attached to the syringe. This should be followed by some antiseptic solution. The same treatment should be carried out with both sides.—*Journal American Medical Association*.

CURRENT MEDICAL LITERATURE.

Conducted by A. J. MacKENZIE B. A., M. B.

FIBROMYOMATOUS TUMORS OF THE VAGINA.

IN the February number of the American Journal of Obstetrics this subject is discussed by Richard R. Smith, M.D. and an analysis is made of 100 published cases and one case occurring in his own practice and hitherto unpublished. From his own examination of the cases cited he derives the following conclusions :

Fibroma (myoma and fibromyoma) of the vagina is a rare disease. It occurs most frequently in women between 30 and 40, but has been observed at ages ranging from 20 to 70. The cases observed in infants are open to some doubt as to diagnosis.

It occurs independently of civil condition. No proof can be deduced to show that it affects fertility. It may obstruct labor when large. When the growth is small it rarely affects coitus, and may not do so even though the growth be large. There is some evidence that in some cases menstruation may be increased. The tumors when small, rarely produce symptoms of consequence ; when large they prove the source of considerable suffering and even danger. The symptoms when present are pain, hemorrhage, discharge, obstruction to the bladder and, rarely, to the bowel.

No exact division of the cases into fibroma, myoma, and fibromyoma can yet be made. The term fibromyoma will probably cover most of them, but pure fibroids have been observed. Pure myomata may also exist. The tumors grow from anterior and posterior wall in proportions of about 2 to 1. They may be sessile or polypous. They vary very greatly in size. They are single with very rare exceptions. They are as a rule of very slow growth. They are prone to oedema, necrosis, and ulceration. Treatment is essentially surgical.

IS THERE A FOURTH DISEASE?

IN the February number of the Practitioner, Dr. Claude B. Ker, Medical Superintendent of the Edinburgh Hospital for Infectious Diseases, discusses the Fourth Disease, the term by which Dr. Dukes, in July, 1900, classified certain cases appearing in epidemics, which could not readily be classed as measles, scarlatina, or rubella. The writer first gives an admirable differential diagnosis between these three diseases,

which are so frequently confounded, and then sums up the evidence adduced by Dr. Dukes which rests on two epidemics in schools; in one, two diseases were epidemic, one of which undoubtedly was scarlatina, the other resembled rubella, while in the second epidemic the disease was scarlatinaform. The symptoms were an incubation of 9 to 21 days, an absence of premonitory symptoms, slight sore throat and malaise before the appearance of the rash, an eruption brighter than that of scarlatina, the throat swollen, the conjunctiva pink, the glands enlarged, desquamation slight or profuse, the tongue furred but does not peel, the temperature 101 degrees, the pulse not unduly accelerated; the disease affords no protection against scarlatina or rubella, does not last longer than 21 days and there are no sequelae.

The writer thinks that too much force is laid on the fact that immunity was not conferred by the disease, as in many cases we have second attacks of all these maladies, and believes the symptoms in the first outbreak compatible with rubella, and in the second with scarlatina. The evidence of his own experience coincides with that of Dr. Washbourn of the London Fever Hospital and of Dr. Caiger of the South Western, in the failure to find any epidemic corresponding to that described by Dr. Dukes, and on the whole believes that for the present the case may be considered "not proven."

CHRONIC PROGRESSIVE DEAFNESS.

IN the Medical Press and Circular for February 5th, Mayo Collier discusses the causation and treatment of that form of deafness which occurs insidiously, without pain or discomfort in the ears, and becomes apparent to the individual only when a marked impairment of hearing has taken place. The cause he finds in catarrhal conditions, often slight, and episodal rather than continuous, of the naso-pharynx, which by obstruction of the Eustachian tube interferes with the passage of air into the tympanic cavity, and produce there a diminished extra-vascular tension, with the result that the intra-vascular pressure asserts itself by dilating the vessels and tissues generally, and the drum head is driven in to accommodate the cavity to its lessened contents.

The appearance in this condition is an angular rather than a concave drumhead, with redness and striation in the region of the handle and head of the malleus. The extra pressure from the outside hampers the movements of the tympanic membrane, the joints of the ossicles are stiffened and their movements retarded, and the dilatation of the vessels and tissues interferes in time with the function of the parts. This is

enough to produce progressive deafness, though there may never be pain or discomfort.

The treatment is that of the catarrhal condition, with daily exercise of the drumhead by the Politzer bag and Seigle's aspirator, and the writer believes that many such cases may be improved or cured if the condition be recognized in time.

ON FLOATING KIDNEY AS A CAUSE OF OBSTRUCTIVE JAUNDICE AND HEPATIC COLIC.

J. HUTCHINSON, Jr., F.R.C.S., in the Practitioner for February, discusses this most interesting among the varied symptoms due to floating kidney. The subject is not a new one, cases having been described as early as 1884, and recently several surgeons, among others Sir Frederick Treves, have reported cases where biliary obstruction was cured by nephropexy. Owing to the comparative rarity of such cases, many surgeons have doubted a causal relation between the conditions, and suggested that it was merely a coincidence, but the writer is firmly convinced of the connection, though he differs from others as to the manner in which the obstruction is brought about. Two of his own cases are reported in the article.

The explanation offered by Dr. Weisker was that the floating kidney made traction on the so-called hepato-renal band of peritoneum, which is described as connected with the gastro-hepatic omentum; our author points out that the gastro-hepatic omentum does not reach outwards as far as the first bend of the duodenum, and so is free of the kidney. Other explanations offered are direct obstructive pressure on the ducts, which is improbable, and the existence of pathological bands of peritoneum due to adhesions which doubtless may and often do exist, but some cause must have induced their formation.

The true explanation Hutchinson finds in the relation of the right kidney to the second part of the duodenum which rests on it, the pelvis of the kidney being on the same level and a little to the outside of the orifice of the common bile duct, so that it is improbable that the right kidney ever floats forwards and inwards without to some extent affecting the position of the duodenum, and this is what occurs in displacement by corset pressure. The writer cites the evidence of dissections, and gives illustrations in support of this view. He says: "We have then the following factors to explain the occurrence of obstructive jaundice with floating kidney: (1) Downward displacement of the third part of the duodenum, with stretching of the common bile duct; (2) displace-

ment of the gall-bladder with sharp kinking of the cystic duct; (3) torsion of the vertical part of the duodenum and, perhaps even of the bile duct." The close connection of the solar and renal plexuses is invoked to explain the vomiting, etc., due to floating kidney, but it is not unlikely that displacement and dragging on the duodenum may sometimes be the cause.

Medical treatment can do nothing for cases where biliousness and indigestion are due to floating kidney, and diagnoses of gall-stone may in cases be revised in the light of a concomitant nephroptosis; the only rational and satisfactory treatment in such cases will be nephropexy.

LARYNGEAL TUBERCULOSIS.

THE Journal of Laryngology, Rhinology, and Otology for February publishes three lectures delivered by Dr. R. Lake, at the London Post-Graduate College on the subject of Laryngeal Tuberculosis. An admirable and most comprehensive description of this affection in its clinical manifestations and therapeutical indications is given; a few of the most salient points brought out are as follows: The predisposing causes are—previous inflammatory conditions of the laryngeal mucosa, chronic laryngitis resulting usually in "pachydermia laryngis", chiefly situated in the posterior commissure, which is in the route of sputa being discharged from the lungs, the age being most frequently affected is from 20 to 40, males are affected about three times as often as females, in-door, dusty, and sedentary occupations favor its development, syphilis increases the tendency by decreasing vitality, while disease of the naso-pharynx reduces the protective power of this region.

Under symptomatology, the writer, while admitting the possibility of primary tubercular infection of the larynx, calls attention to the frequency with which it is associated with pulmonary lesions, and the difficulty of certainly determining that there was no antecedent lesion of the lung. Hence symptoms of a systemic character are masked by those of the larger lesions. In this connection we must avoid classing all laryngeal affections concomitant with pulmonary tuberculosis as tubercular. The special symptoms associated with the disease include alteration of the voice varying from slight hoarseness to a complete aphonia, and this interference may be either purely mechanical, purely neurotic, or due to absolute implication of the larynx in the morbid process. Among mechanical causes may be cited adhesion of tenacious mucus to the cords themselves, obstruction by means of pachydermatous thickening in the intra-arytenoid region, loss of muscular tone in the internal tensors of

the cords, or paralysis due to causes acting on the trunk of the recurrent laryngeal nerve. A vocal symptom peculiar to this disease is, in cases where there is a chronic affection of the cords, a sudden change of pitch, say from bass to tenor takes place due to one swollen cord becoming caught or engaged against the other. Dysphonia, dysphagia, reflex pain, and sore throat frequently are present, the latter symptom is rarely present except in ulceration of the arytenoids or epiglottis; if the former, the pain occurs in swallowing fluids, if the latter, in swallowing solids.

When examined by the mirror, one usually notices an anaemia of the oro-pharynx, part of the systemic anaemia of the disease. The most characteristic conditions seen in patients who complain much of their throats are a swelling, usually bilateral and pyriform in shape, of the arytenoids; also the so-called "turban-shaped" epiglottis, and ulceration on its dorsal aspect, and general shallow ulceration of the whole larynx, with or without characteristic swelling. Besides this pyriform swelling the arytenoids show a red color becoming paler later, with ulceration, and they may become so oedematous as to obscure the rest of the larynx. Ulceration of the epiglottis is rarely on the anterior surface, in this it differs from syphilis, and when the substance of the organ becomes involved, it becomes thickened and frequently assumes a horizontal position from the passage of food over it. The posterior commissure is frequently the site of swelling and of characteristic cauliflower-like growth. Rarely an abscess cavity is formed discharging pus, or the ulceration attacks a vessel and haemorrhage is seen. The true vocal cords may show a variety of conditions from inflammation due to coughing etc. hyperplasia, abrasion, ulceration with the erosion of the edge, extending to complete destruction of the structure. A perichondritis may develop and some writers describe this as affecting the crico arytenoid joint. Associated lesions may be found in the mouth, ear, nose, or trachea.

The parts most frequently attacked are in the posterior half; as this is the channel along which sputa impinges upon the vocal cords, on account of their striking together, and generally the parts where the epithelium is not provided with cilia.

Treatment. While systemic treatment is of course imperative, we need only mention the different methods of special treatment, and these may be classified as medical and surgical. Under medical we have pigments or paints applied to the larynx; it may be necessary to precede these with an application of cocaine, 10 per cent. The best drugs are Lactic acid and formalin, which the writer uses as follows: formalin 7 per cent. lactic acid 50 per cent. glycerine 20 per cent. water to 100 per cent. Insufflations may be used more easily for home treatment, among the

powders most useful are iodoform, chinosol, paraform, combined with orthoform for its anaesthetic properties. For all tubercular trouble below the cords, and for the cords themselves, Dr. Lake finds the intra-tracheal injection most useful; he uses about an ounce of a preparation containing 3 per cent. of naphthalin and $\frac{1}{2}$ per cent. of oil of cinnamon. As to choice of remedies he says "Where there is swelling of the arytenoids and epiglottis, with or without ulceration of the false cords and of the interarytenoid region, one should confine one's treatment entirely to friction of the parts with one or other of the pigments suggested. But if the ulceration is deep or if the swelling of the false cords is of that form which we have described as pointing to perichondritis, paints should only be used as an adjunct to operative treatment; and the same may be said of cases exhibiting severe dysphagia, when the surface is intact, and where the patient's temperature chart is fairly regular, and where the highest point reached during the 24 hours is not greater than 100.5 F."

The most important contra-indications for operation are to be found in the general condition, advanced progressive pulmonary tuberculosis, high fever, wasting, great nervousness, or general miliary tuberculosis. The author admits that in this resort to operation he is not supported by his British colleagues, but claims the highest foreign authority. For the epiglottis, scraping or cutting out small ulcers is indicated, but if the body or fibro-cartilage is involved, removal by the galvanocautery is advised. For swelling of the arytenoids of an oedematous character, scarification or multiple puncture is indicated, for deep swelling when the cartilage is involved, complete removal with the cutting forceps. In the inter-arytenoid fold, ulceration should always be removed by the curette. The vocal cords rarely require much operative procedure, except picking off granulations, or curetting a particularly sluggish ulcer. Tracheotomy is occasionally required for the immediate relief of symptoms, but should never be adopted as a curative measure.

The prognosis in these cases can only be directed toward the possibility of cure of the laryngeal condition and here the writer's experience supports him in affirming that the patient's comfort may be vastly increased, and that laryngeal symptoms may be abated, until the cure or fatal result of the pulmonary affection.

THE RUSSELL TREATMENT.

THE Post-graduate for February contains the report of the committee appointed by that journal to review the experiments of Dr. John. F. Russell, in the treatment of tuberculosis in the Post-graduate Hospital, New York, during the year 1901. The whole object of the method of

treatment is to improve nutrition, and Dr. Russell's purpose is to demonstrate the curability of uncomplicated pulmonary tuberculosis, by dispensary methods in classes where for various reasons, sanatorium treatment is not available. The report is most encouraging, 50 per cent. having been discharged apparently cured, and of the others all gained in weight.

TREATMENT OF FEBRILE DELIRIUM TREMENS BY THE COLD BATH.

IT is well known that febrile delirium tremens has an extremely grave prognosis, at least 50 per cent. dying. It has been supposed that some toxic infection is the cause of this condition, and it has therefore been suggested that we might treat the pyrexia symptom, as is done in other cases, by the direct application of cold. Salvant has recently collected a series of such cases (Thèse de Paris, 1901) in which he employed this form of treatment with remarkable success. The following is his method: In the first place every case in which the temperature rises above 39° C. ought to be so treated. The temperature of the baths may be 18° provided the cardio-vascular system of the patient will stand it. Should this not be the case, or if any tendency to collapse be manifested, the initial temperature may be 28°, or 25° and then gradually lowered. So soon as the patient has been immersed it is well to give warm and stimulating drinks, while at the same time the head is douched continuously with water taken from the bath. The bath ought to last from five to ten minutes, and should the pulse remain good, it may be prolonged from fifteen to twenty at most, but baths of this duration should be reserved for cases in which the temperature has exceeded 40°. According to some it is a good plan to give frequent baths, even as many as three every hour rather than to prolong each individual bath. It should be continued till the temperature comes down and the delirium disappears. It is laid down as a most important rule that these baths should be carried out under the personal supervision of the medical man himself who should carefully watch the pulse, for it must be recognized that the sedative effect does not show itself until the patient is almost reduced to a condition of collapse. On being removed from the bath he must be put into a warm bed and abundance of hot and stimulating, but not alcoholic drink given. These favor diuresis and renal elimination. After the attack it still remains to treat the patient during convalescence which in itself requires considerable care. In those cases where the temperature does not exceed 38° C. tepid baths may be used. The contra-indications for cold baths are grave cardiac disease, endo-pericarditis, myocarditis,

and in all cases that are incapable of reaction. Thus, old people and the subjects of arteriosclerosis, or interstitial nephritis are not good subjects for this method of treatment. (*British Medical Journal, Feb. 8th.*)

A NEW METHOD OF CLOSING VESICO-VAGINAL FISTULA.

THE Philadelphia Medical Journal, Feb. 15th., has an article by Dr. A. Lapthorn Smith, of Montreal, describing a new and improved method of closing a vesico-vaginal fistula, with report of a case. Briefly the procedure was as follows: After careful disinfection the bladder was separated from the uterus and vagina, the laceration in the uterus was closed by Emmet's method with chromicised cat-gut; the edges of the tear in the bladder wall were brought together, the margins being freshened in the separation; and the muscular walls were brought together by an over and over chromicised cat-gut suture going back fully an eighth of an inch on each side, but without penetration of the mucus membrane, in this way a strong ridge was made; next the slit in the vagina was closed by an interrupted silk worm gut passed through the vagina then through the muscular wall of the bladder, but half an inch to the left, so that the bladder was displaced sideways, and the line of the two rows of sutures was separated by an interval, thus opposing a valve to the escape of the contents. A catheter-à-demeure was placed in the urethra; the stitches were removed on the tenth day, and the result was an uneventful and permanent cure.

The surgeon emphasises the importance of the avoidance of penetration of the bladder membrane, thus avoiding the possibility of the formation of calculi on the sutures; the inclusion of enough of tissue in the suture to ensure the presence of a thick ridge, and the displacement of the two lines of sutures, as an additional safeguard against leakage.

NAKED-EYE DIAGNOSIS OF STOMACH DISPLACEMENTS.

IN the New York Medical Journal, Feb. 15th, Dr. Knapp calls attention to the possibility of locating the stomach curve and the lines of other organs, by the naked eye. The patient's abdomen is bared, the examiner stands either at the side or shoulder of the patient so as to look down towards him, the eye is then brought on a level with the surface of the body and the abdominal respiration is watched with one eye or both, when the curvatures of the stomach will be seen distinctly as fine lines under the skin, moving with the respiration. These may be marked with ink and their position verified by percussion. The same method may be applied to the location of the enlarged spleen or other organ.

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EDITORIAL.

OPERATION FOR MITRAL STENOSIS.

APPARENTLY the end is not yet. Sir Lauder Brimton contributes to **THE LANCET** a preliminary note on the possibility of treating mitral stenosis by surgical methods. The condition is so distressing and so little amenable to medical treatment that he thinks dividing the constriction should be considered as a possible surgical procedure to afford relief. While appreciating the dangers attending such an operation, the risk of a shortened life might well be balanced against the continuance of a condition worse than death. Sir Lauder very properly says that no one would be justified in attempting this operation on a fellow creature without first experimenting on animals. He accordingly procured a license to make the necessary experiments but so far he has not been able to carry them out. The distinguished author would probably have been wise to have deferred writing until he had put himself in possession of some clinical or experimental data to commend his suggestions to the profession.

Is not the argument that a certain condition is irremediable by medical treatment too frequently put forth as a reason for undertaking certain surgical measures often immediately hazardous and offering scarcely the faintest chance of giving relief? Surgical interference should have more to commend it than that the patient's condition is distressing, or even hopeless, under medical treatment. There should be a well grounded hope at least of relieving the condition for which the operation is undertaken. The surgeon should not be asked to play the role of executioner—even in desperate cases. We hope something good may come of Sir Lauder's suggestion, but we believe an excellent rule has been violated by going into print before having something definite to say.

CHRONIC PENTOSURIA.

This is an obscure condition wherein a substance appears in the urine which reacts with Fehling's test and with phenyl-hydrazin in much

the same manner as glucose, consequently giving rise to a possibility of mistaking pentosuria for glycosuria. It differs from the latter, however, in not responding to the fermentation test. Neither does the administration of glucose to patients suffering from the condition, cause any increase of the substance in the urine nor yet produce a glycosuria, so that it evidently bears no relation to diabetes. No alteration in the condition can be produced by variations in diet. The etiology of pentosuria is not understood as only a few cases have been studied and reported. Bial & Blumenthal, who have reported a case, say that in normal tissue metabolism a certain amount of pentose is formed from the nuclein of the tissues, but this is rapidly oxidized and does not appear in the blood or urine. Under other circumstances not yet understood this process of complete oxidation fails and the pentosuria appears. The chief practical importance attaching to it is the liability to mistake it for glycosuria, its true clinical significance being as yet unknown.

EDITORIAL NOTES.

DR. R. S. A. KNOPF, of New York, the specialist in tuberculosis, has written a very kind letter in appreciation of the two excellent Tuberculosis numbers of THE CANADA LANCET. The congratulatory letters now received from all parts of the country show that the improvements in this publication are much appreciated by the profession. Not one half of the projected improvements have yet been made, because time is required to work out the details of the scheme now in hand. New departments and new features will be added from month to month, until THE CANADA LANCET is the equal of any medical monthly in the world. There is no reason why this country, with its excellent colleges and its high standard of professional training, should not have a journal which will truly represent the medical profession. THE CANADA LANCET now circulates in every province in Canada, two hundred new subscribers having recently been added from Manitoba, the North-West and British Columbia. It hopes, by a consistent and broad-minded editorial policy, to retain the good-will and respect of every member of the Canadian profession, no matter what his college affiliations or his special line of work. It asks no more than to be judged by the standard it maintains.

June 4th and 5th have been fixed as the dates of the next meeting of The Ontario Medical Association in Toronto. Dr. J. T. Fotheringham has been chosen as chairman of the Committee on Papers and Business, and has associated with him a number of active workers. This committee

is hard at work arranging for a programme, which we understand will present many new and interesting features. The time has certainly come for this association to make a move forward and to deal more vigorously with many matters pertaining to the interests of the medical profession of the Province. The fact that the officers are at work early procuring papers and arranging the programme augurs well for the success of the meeting, as little can be expected where these matters are deferred to the last minute. The active co-operation of the profession in general will infuse new life into an organization that has done excellent work, but that has not yet realized the full extent of the possibilities before it.

It is proposed to build an addition to the hospital at Woodstock, Ont., to cost \$3,500.

The County of Huron recently made a grant of \$1,000 towards the erection of a hospital in Goderich, Ont.

The heirs of the Chipman estate at St. Stephen, N.B., have presented to the town the Chipman grounds and residence, the latter having been remodelled and fully equipped as a hospital. Accommodation is provided for twenty patients.

The Medical Faculty of Toronto University contemplate the erection at an early date of a new building in Queen's Park at a cost of \$125,000. A deputation from the Faculty waited on the Ontario Government recently in order to make financial arrangements. It is stated that the buildings will be ready for occupation by January, 1903.

The common-sense, logical German has little use for the mental and moral vagaries of the followers of Mrs. Eddy. The Emperor has turned his attention to the matter and the authorities are beginning to deal vigorously with the Christian Scientists. It is stated they will be prohibited from practicing their methods within the domains of the fatherland.

The Huron County (Ont.) Medical Association met in Clinton on March 4th. The papers read were as follows: President's address—"Progress of Medicine," Dr. Dunsmore, Stratford; a case of Cerebellar Tumor, Dr. Graham, Clinton; Surgical Rules to be observed in Practice, Dr. J. A. Robertson, Stratford. Others present were: Dr. Armstrong, Mitchell; Dr. Bethune, Seaforth; and Drs. Shaw, Gunn and Thompson of Clinton.

The American Medico-Psychological Association will meet at the Windsor Hotel, Montreal, on June 17, 18, 19 and 20. The Committee of Arrangements are: T. J. W. Burgess, M.D., Medical Superintendent, Protestant Hospital for the Insane, Montreal; George Villeneuve, M.D., Medical Superintendent St. Jean de Dieu Asylum for the Insane, Longue

Pointe; A. Vallee, M.D., Medical Superintendent, Quebec Asylum for the Insane, Quebec; Jas. V. Anglin, M.D., Assistant Medical Superintendent, Protestant Hospital for the Insane, Montreal; E. Philippe Chagnon, M.D., Physician to Notre Dame Hospital, Montreal; Jas. Perrigo, M.D., Past President Montreal Medico-Chirurgical Society, Montreal. The annual address will be delivered by Dr. Wyatt Johnston, Lecturer on Medical Jurisprudence, McGill University Law Faculty, Assistant Professor of Hygiene, the Medical Faculty, Pathologist to Montreal General Hospital. His subject will be "The Medico-Legal Appreciation of Trauma in its Relation to Abnormal Mental Conditions." There will be some eighteen other papers.

The modes by which those who have commercial or proprietary preparations to dispose of, seek to engage the interest of the profession, and make capital of their endorsement, are so constantly in evidence at the present as to deceive no one; but we believe that the standard of the profession in Canada is too high to permit our physicians, unwittingly or intentionally, to be made the dupes of this class of dealers. Such being the case, the manager of a concern devoted to the cure (*sic.*) of drug habits, makes, we believe, a most egregious blunder, as well as offers a most shameful insult to the profession he addresses, when in a pamphlet recently and widely circulated in the form of a personal communication to the doctors of Ontario, he offers a "commission of five dollars" to any physician referring a patient to him at the full fee. "Shade of Hippocrates!" what are we coming to, when one who has necessarily had some association with the profession, presumes to suggest such an arrangement? We imagine it will take a still longer list of Chief Justices and Principals of theological colleges to satisfy those he addresses of his "professional standing and personal integrity," and that proverbially poor though we may be, he will have to increase the generous donation offered before he induces any to prostitute professional standing to his advantage.

We publish elsewhere a letter from Dr. Rosebrugh, secretary of the Prisoners' Aid Association of Canada, in which he makes an appeal for the active support and co-operation of the medical profession in influencing the Provincial Legislature to make statutory provision for the care of inebriates. Resolutions adopted from year to year by our various medical associations show that the necessity for legislation is generally recognized by the profession, but these resolutions have not been followed up by sufficiently strong pressure on individual members of the legislature and the government to convince them of the urgency of the need or even that we are in earnest in reference to the matter. Session after session it has been expected that something would be done, but no move has yet been

made. The request of an appropriation of \$5,000 in order to begin the work contemplated by the Bill is surely a reasonable one, and we believe the expenditure will be generally approved of. The present lack of provision for properly dealing with pauper inebriates is a disgrace to the Province. Let the medical profession give their vigorous support to Dr. Rosebrugh and his associates, and legislation in keeping with the spirit of the times, in the management of inebriates, will soon be forthcoming.

A deputation representing the universities and medical schools of Ontario recently waited on the Ontario Government in opposition to the Bill introduced by Dr. Jessop to amend The Ontario Medical Act by excluding from representation on the Council of the College of Physicians and Surgeons of Ontario the homœopathic practitioners, and the various universities and teaching bodies.

The main objections to the Bill are stated in a memorandum submitted to the Honourable, the Minister of Education by the University of Toronto as follows :

"(1) It excludes from the body entrusted with fixing and determining the standard of medical education and prescribing the curriculum of studies those, who by reason of their avocation, as well as training and experience are, if not best fitted, at least specially qualified for performing these duties.

(2) It hands over to a practically irresponsible body the entire and absolute control of medical education, and creates a close corporation or guild.

(3) It imposes on the universities and colleges engaged in the work of medical education the obligation of following the curriculum of studies prescribed by the Council without having any voice in framing of it.

(4) It violates the compact entered into with the universities and teaching bodies by which they were given representation on the Council in consideration of their giving up the right to confer degrees or diplomas in medicine and surgery, entitling the possessor of them, without further examination, to practise on obtaining his license or becoming registered."

The Council at present is composed of ten college and university appointees, five homœopathic representatives and seventeen territorial representatives of the regular body of registered practitioners.

It was pointed out that, while in a council of thirty-two members in Ontario, ten are college representatives, in the General Medical Council of the United Kingdom, with a membership of thirty, five are appointed by the Crown, twenty by the universities and colleges and only five are elected by the registered medical practitioners.

CORRESPONDENCE.

The editor does not endorse nor hold himself responsible for the opinions expressed by correspondents

ON BEHALF OF THE INEBRIATE.

To the Editor of THE CANADA LANCET:

SIR,—As you are aware, for over a decade, the Prisoners' Aid Association of Canada has been agitating for Government assistance in the treatment of inebriates. This assistance, we are fully persuaded would have been afforded long ago had the matter been taken up with zeal by members of the medical profession. I am not forgetting that resolutions have been adopted again and again by medical societies with a view of endorsing this movement. Unfortunately, however, the mere adoption of a resolution, according to our experience, has very little weight with legislators. What it requires is personal effort on the part of individual members of the profession. It is one thing to vote for a resolution at an annual, or other meeting, but quite a different thing to follow it up by individual effort after the meeting adjourns. The grave mistake we have made in the past is this: we have spent our entire effort with the Government only, instead of taking the individual members of the Legislature into our confidence, as we should have done. However willing the Government may be to act in matters of this kind, they are slow so to do unless well assured of the hearty concurrence of the private members of the House. A few words of explanation from a constituent is doubtless all that would be required in most cases in order to secure the active support of the individual members of the Legislature.

The way the matter stands at present is as follows. At an interview with the Provincial Secretary on Feb. 5th inst. we asked that, if at all possible, the proposed bill for the treatment of inebriates be introduced by the Government without further delay but that if this could not be done we believed we had a right to expect that, in view of past disappointments, some action should be taken by the Government at once so that a beginning at least may be made before the next session of the Legislature.

The Provincial Secretary stated in reply that as this is the last session before the Provincial elections the proposed bill for the treatment of inebriates could not be introduced at present, but that he would favor a beginning being made in the meantime, and that he would recommend to his colleagues that an appropriation be made for the purpose of encouraging the treatment of inebriates either in cottage hospitals or in public hospitals where such would be found available for the purpose.

It was of course a disappointment to be told that the bill could not be introduced this session but on the other hand if the Government should act upon the recommendation and make a sufficiently ample grant to permit of a fair commencement to be made this year, on the principle that even a moderate beginning gives a fair guarantee for the future, we should be content for the present to rest meanwhile. The danger is however that the Government's ideas and our ideas regarding what would be an ample grant for the present purpose may differ widely. Hence the need of influence being brought to bear upon the Government through the members of the Legislature. As it is estimated that the practical working of the bill would involve an expenditure of \$10,000 yearly it would surely not be too much to ask for an appropriation of say \$5,000 to be used, to a certain extent experimentally, during the present year and to prepare the way for intelligent legislation later on.

We respectfully solicit the influence not only of the *Lancet* but also of every reader of the *Lancet* on behalf of this movement,

Yours truly,

A. M. ROSEBURGH,

Secretary.

Toronto, February 16th, 1902.

I have every sympathy with Dr. Roseburgh's long continued, and disinterested efforts on behalf of inebriates—a sadly too large class even in Ontario, of which Province we are so justly proud. I think such work is very well worth the small outlay for which he asks as a beginning—and sincerely trust that as he conducts it with so much zeal, it may result before very long, in great good being done to a class of persons whom we all would fain see reformed, for their own sakes, as well as for the satisfaction of their relatives and friends.

WALTER B. GEIKIE.

Toronto, Feb., 1902.

To the Editor of THE CANADA LANCET :

SIR,—Being a practitioner in a neighboring city I depend largely upon the daily papers for news from Toronto. During the past few months I have noticed articles in them which have led me to refer to the Code of Ethics of the Ontario Medical Association. Bearing upon the duties of physicians in regard to consultations I read and reproduce Article 4, clause 3 : " In consultations the attending physician should be the first to propose the necessary questions to the sick ; after which the

consulting physician should have the opportunity to make such further inquiries of the patient as may be necessary to satisfy him of the true character of the case. Both physicians should then retire to a private place for deliberation; and the one first in attendance should communicate the directions agreed upon to the patient or his friends, as well as any opinion which it may be thought proper to express. But no statement or discussion of it should take place before the patient or his friends, except in the presence of all the faculty attending, and by their common consent; and no opinions or prognostications should be delivered which are not the result of previous deliberation and concurrence." How closely this rule has of late been observed in practice leads many of us to question its existence. We are told that the first physician in attendance should communicate "any opinion which it may be thought proper to express. But no statement or discussion of it should take place before the patient or his friends, except in the presence of all the faculty attending and by their common consent; and no opinions or prognostications should be delivered which are not the result of previous deliberation and concurrence." Notwithstanding this we very frequently see opinions expressed by the consultant regarding the condition of prominent men, not verbally before the patient or his friends, but publicly in the lay press, which not only the patient and his friends but all who can read may learn and discuss. Imagine the mental distress experienced by Dr. A. B's patient, who is suffering from pernicious anæmia, when he reads in his morning paper that Mr. X. Y., a prominent citizen afflicted with the same disease, is said by an *eminent consultant* to be gradually sinking. Any physician who happens to be in attendance upon a patient who is incurably ill knows full well the extreme restlessness and lack of confidence evidenced by that patient when he sees in the paper that X. Y., suffering from the same disease as he, is said by the eminent consultant to be slowly but surely sinking.

I am willing to admit that the importunity of the eager reporter is in part responsible for a great deal of such information as is frequently given concerning prominent individuals. It is the business of the reporter to provide copy and it cannot be denied that news of this kind is of interest to the laity, but I contend that the attendant physician should impart the information after "previous deliberation and concurrence." Should the consultant be pressed by a reporter it would be easy for him to observe the rule and refer him to the attendant physician and thereby avoid being an accomplice in doing him an injustice. Certainly no information should be given without the knowledge and consent of the attendant physician. Is it for the public good that the morning papers

should serve up for breakfast a synopsis on Addison's disease, acute cardiac dilatation, leukæmia, pernicious anæmia, exophthalmic goitre, angina pectoris or hepatic inadequacy? In the morning papers I have also sometimes seen a physician receive such an advertisement as the following: *Yesterday afternoon Dr. E. F. of Toronto, assisted by local physicians, operated upon Mr. C. D. for appendicitis. The patient is progressing favorably but is not lacking in the element of danger.* This interesting item of news was inserted as a local from a correspondent in an outlying town. Imagine the local correspondent making use of the carefully couched language of the shrewd prognosticator. I will not even make an insinuation as to who was directly or indirectly responsible for the information. It cannot be denied that many readers are interested in the welfare of friends who chance to be ill but it must be conceded that it is reprehensible for the consultant or operator to allow his name to appear conspicuously in such articles.

Also it is reprehensible for a physician to ignore Clause 4 of Article II. in the Code which reads as follows:—"Equally derogatory to professional character is it for a physician to hold a patent for a surgical instrument or medicine; or to dispense a secret nostrum, whether it be the composition or exclusive property of himself or of others. For if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality; and if mystery alone give it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice. It is also reprehensible for physicians to give certificates attesting the efficacy of patent or secret proprietary medicines."

I am led to refer to this clause because of the appearance in the press of your city of an announcement to the effect that an establishment for the treatment of tuberculosis by a process known as the Ramage system is to be opened in the near future under the auspices of two physicians. Of this system I know nothing, but do know that it is a secret process. It may be patented or it may not. It matters little whether it is or not. The fact that it is not given to the profession for the public good stamps it at least as a commercial enterprise. I will not criticize the conduct of the physicians who *lend* their names to the project. Words fail me. Further, it might be uncharitable for me to do so. It is possible that the public, rich and poor alike, may be able to secure this marvellous cure. There may be well advertised bargain days during which those without means may be able to present themselves for treatment. Be that as it may. If the system is of value why withhold knowledge of it from the profession? Where would science be to-day if the commercial spirit had actuated those to whose efforts we are indebted for

vaccination, serum therapy and other advances in the medical and surgical world ?

I will not pass an opinion as to whether physicians flagrantly and repeatedly breaking Clause 3 of Article IV., or those who do not observe Clause 4 of Article II., are most guilty, but would prefer to leave that to be done by the Ontario Medical Association, of which they all are or have been members. Suffice it to say, in conclusion, that all are alike in one respect, and that is the insatiable desire for newspaper advertising.

Yours, etc.,

Hamilton, Ont., Feb. 28th, 1902.

PHYSICIAN.

THE ONTARIO HOSPITAL ASSOCIATION.

IN compliance with the request in the circular letter sent out to the hospitals of Ontario from the County of Carleton General Protestant Hospital of Ottawa, bearing date 7th January, 1902, and signed by Mr. E. B. Eddy and Mr. T. W. Kenny, a number of ladies and gentlemen met at the Queen's Hotel, Toronto, 18th February. The following were present:—Mr. E. C. Gurney, from Grace Hospital, Toronto; Dr. Spiers, Galt Hospital, Galt; R. E. Nelson, Guelph General Hospital, Guelph; Mrs. J. Bell and Mrs. Rathbun, Belleville General Hospital; Alex. Lumsden, M.P.P., Maternity Hospital, Ottawa; F. Haight, Berlin and Waterloo General Hospital; H. Malcolmson, Public General Hospital, Chatham; Dr. A. Robillard, Water Street General Hospital, Ottawa; Dr. Herald, Kingston General Hospital; J. P. Featherstone, C. C. Roy, and G. L. Orme, County Carleton General Protestant Hospital, Ottawa; Dr. J. Ferguson, G. H. Carveth, and Price Brown, Western Hospital, Toronto; Dr. M. O'Connor, St. Michael's Hospital, Toronto; Dr. C. O'Reilly and A. F. Miller, Toronto General Hospital, Toronto; C. F. Maxwell, St. Thomas Hospital, St. Thomas; Dr. Edgar, Hamilton City Hospital, Hamilton; Robert McLaren, General and Marine Hospital, St. Catharines; Grant Ridout, Children's Hospital, Ottawa; James McLaughlin, General and Marine Hospital, Owen Sound; Dr. F. L. Howland, General Hospital, Huntsville; F. Cochrane, Mayor of Sudbury, St. Joseph's Hospital, Sudbury.

Mr. E. C. Gurney was unanimously asked to take the chair, and Mr. G. L. Orme to act as Secretary of the meeting.

The Chairman stated that the objects of the meeting were to consider in what way they could best promote the interest of the hospitals throughout the Province. He called upon Mr. J. P. Featherstone, of Ottawa, to address the meeting.

Mr. Featherstone then addressed the meeting at considerable length.

He pointed out that the Government grant to patients in the hospitals had fallen from 30c per diem to 18c per diem. This was due to the fact that while the total grant for many years had remained, the number of hospitals and patients had greatly increased. He pointed out that the cost of maintenance had increased from 40c to 80c or \$1.00 per day. This was owing to better and more expensive accommodation being required. He further pointed out that the Succession Duties Act which took a good slice of wealthy estates for charitable purposes, often prevented wealthy persons from making bequests to hospitals. Thus, while the Government grant had decreased nearly one-half, there were fewer private and voluntary donations and legacies. He went on to say that few municipalities did all that they ought to do, and some did nothing towards the maintenance of its indigent sick. He urged that steps be taken to secure a proper measure of county and city aid. He suggested that a Provincial Hospital Association be formed to further the welfare of the various hospitals.

The following resolutions were then put and unanimously adopted :

NAME.

The organization shall be known as the Ontario Hospital Association.

OBJECTS.

1st. To procure increased Government aid for the maintenance of indigent patients in the public hospitals of Ontario.

2nd. To take steps to secure a proper amount of county and civic aid.

3rd. To promote, by mutual suggestion and discussion, the interests of hospital work throughout the province.

MEETINGS.

The Association shall meet annually at Toronto at such time as may be decided best in the opinion of the Executive for the furtherance of the work of the Association.

OFFICERS.

The officers shall consist of a President, six Vice-Presidents, a Secretary-Treasurer and a Committee of eight, who shall constitute the Executive, and of which number five shall form a quorum.

MEMBERSHIP.

Each hospital in the Province receiving Government aid shall be entitled to be represented, and any member of its Board shall be entitled to membership in the Association, but that each hospital shall be entitled to one vote.

FEES FOR MEMBERSHIP.

1st. It was moved and adopted that the minimum fee from each hospital be five dollars, and

3rd. That the fee for individual membership one dollar.

ELECTION OF OFFICERS.

President—Edward C. Gurney, Esq., Toronto.

Vice-Presidents—C. O'Reilly, M.D., Toronto; J. P. Featherstone, Esq.

Ottawa; B. W. Robertson, Esq., Kingston; Adam Bucke, Esq., London; George Roach, Esq., Hamilton; H. Malcolmson, Esq., Chatham.

Secretary-Treasurer—John Ferguson, Esq., M.D., Toronto.

Committee—M. O'Connor, Esq., M.D., Toronto; Robert McLaren, Esq., St. Catharines; J. Strolford, Esq., Brantford; A. Robillard, Esq., M.D., Ottawa; James McLaughlin, Esq., Owen Sound; T. L. Kenny, Esq., Sarnia; Robert Melvin, Esq., Guelph; F. Cochrane, Esq., Sudbury.

INTERVIEW WITH GOVERNMENT.

Mr. A. Lumsden, M.P.P., announced that the Government would receive the members of the association as a deputation at 12 o'clock, on the 19th inst., in the Premier's room. It was then agreed that as many as possible should be present in the deputation.

The meeting then adjourned.

THE DEPUTATION.

According to appointment a deputation waited upon the Government and were received by Hon. G. W. Ross, Hon. J. R. Stratton, Hon. Jas. Gibson, and Hon. Mr. Latchford.

Mr. A. Lumsden, M.P.P., introduced the deputation. He stated that the deputation was a unique one. It did not come to seek any personal advantage or gain. It was entirely philanthropic and sought the good of the indigent sick in the province. He stated that many of the hospitals in the province, at the call of the circular letter, had sent representatives to Toronto, and that these had organized themselves into an influential Provincial Hospital Association. He then asked Mr. Edward Gurney, the president of the association, to address the members of the Government.

Mr. Gurney said that the deputation sought to place the needs of the hospitals before the Government. Hospitals had not been supported by the Government as the asylums had been. It was the duty of the well to care for and look after the indigent poor. In the matter of the Government grant to the hospitals there was a grievance, and the deputation asked to have that grievance remedied. The grant had fallen from 30 cents to 18 cents per diem. If the Government did not act and move liberally the time might come when the hospitals would be forced to refuse admission to the poor. The need was urgent and assistance should be granted at once. Hospitals were going back financially. Mr. Gurney then asked Mr. Featherstone to state his views on the objects of the deputation.

Mr. J. P. Featherstone went on to show that the Government grant was now 18 cents or less per day, whereas it was formerly 30

cents. On the other hand, the cost of maintenance had gone up from 40 cents or 50 cents a day to 80 cents or \$1.00 a day. Municipalities did not always do their duty in the matter of aid to the poor; but even where the municipalities did give aid, the Government grant of 18 cents was too small. The Succession Duties Act had interfered with bequests and donations, as persons would not give when the estate would be taxed. It was clear that in this way the income to hospitals was very much lessened. Notwithstanding the fact the income to the Government, for the Succession tax, had greatly increased, the total amount to the hospitals had not increased, while the number of patients entitled to assistance had greatly increased. The time had now come when it was necessary, if the hospitals hoped to keep up with, medical and surgical advance, that the Government should restore the grant to its original amount of 30 cents per diem.

Mr. Ross and Mr. Stratton promised to give the matter careful consideration. They pointed out that the Succession Duties only provided about one-third of what was paid out in charities; and also that the tax might have the effect of making some contribute to these charities who would not otherwise do so.

The Secretary has since prepared a lengthy letter giving all the facts brought out before the Government by the deputation. A copy has been sent to each Minister.

TWO MANITOBA MEDICAL ASSOCIATIONS.

The Southern Medical Association of Manitoba met at Brandon Feb. 26th. Nearly sixty of the leading physicians of the province were present.

President McConnell of Morden, opened the meeting with a short address. The Secretary of the Association, who has been an indefatigable worker in bringing the organization to a successful issue, read a paper on the "Necessity of Organization in the Medical Profession." After some discussion the physicians from the northern part of the province decided to organize an Association.

The officers elected were Dr. L. M. More, Brandon, President; Dr. Little, Alexander, Secretary; Executive Council: Dr. Poole, Neepawa, Dr. Goodwin, Elkhorn, Dr. Thompson, Douglas, Drs. McDonald and McDiarmid, Brandon.

D. H. P. Elliot of Morden, read an excellent paper on "The Ethics of the Profession." Dr. James Patterson, Dominion Health Inspector, gave a paper on the "Differential Diagnosis of Smallpox," which was much

appreciated. The next paper was read by Dr. Macdonald, Health Officer of the city, on "Quarantine in Smallpox." In view of the prevalence of the disease in Canada these papers will be of use in directing the attention of the Association to this dread disease. "Christian Science" was ably discussed by Dr. J. R. Jones of Winnipeg, whose sarcasm and humor evoked considerable applause. Dr. Chown, ex-President of the Dominion Medical Association, next discussed "Gall Stones" in a very able manner. The last paper on Surgical Subjects was read by John Hardie, M.B., F.R.C.S. Its subject, "Delayed Union and Non-union of Fractures," was handled in an original manner and with thoughtful care. Dr. J. O. Todd, Professor of Surgery in Manitoba University, was present, and though invited to read a paper, very generously gave way to others, as the programme was lengthy. The meeting was disappointed but respected his good will in the matter. Dr. Gahan of Hartney, criticized the Manitoba Health Act in a short but forcible address.

The profession in Brandon tendered the visitors a banquet in St. Matthew's Hall. Blackett's orchestra was present and enlivened the proceedings with excellent music. Dr. More, the President of the newly formed Association, was in the chair. Mayor Fraser made an address of welcome on behalf of the city. Drs. McConnell, Hughes and Latimer replied. The toast to the King being honored was followed by the toast "Canadian Medical Association," which was replied to by Drs. Chown, Todd and Jones. Dr. McConnell proposed the toast of the new "Northern Medical Association." Drs. More, Macdonald, Matheson and Fraser replied.

OBITUARY.

DR. JAMES McLAREN.

DR. JAMES McLAREN died at Deer Park, Toronto, on March 7th, aged 78 years. The deceased was a graduate in Arts of Queen's College, Kingston. He studied medicine in the Old Rolph School, and was graduated from Toronto University in 1853. Owing to ill health he was forced to retire from active practice many years ago, after which he took up his residence in Deer Park, where he continued to live until the time of his death.

DR. GEORGE W. JACKES.

ON March 7th Dr. George W. Jackes, of Eglington, Ontario, was suddenly stricken with apoplexy, dying in less than an hour. The deceased was a son of the late Franklin Jackes, Esq., of Castlefield,

Eglington, and was born in 1851. He received his early education at the public school, Eglington, and later at Upper Canada College. He was a graduate in medicine of Toronto University, receiving his degree in 1870. For a while he practised at Unionville, but afterwards removed to his native village where he established a successful practice. Dr. Jackes was a Liberal in politics, and in religion a Methodist. Though quiet and unostentatious, the deceased was always interested in anything of benefit to the community in which he lived, and his kindly manner and honourable character greatly endeared him to all his acquaintances.

His wife was Almira, daughter of Captain Snider, of Eglington, who, with two sons survives him.

JOSEPH ALEXANDER FYFE.

DR. JOSEPH ALEXANDER FYFE, one of the most prominent physicians, and one of the most highly esteemed citizens of Peterborough, died on February 14th at the age of 64 years. The deceased had been in failing health for some time, which prevented him from attending to his professional duties. His death was due to chronic Bright's disease.

Dr. Fyfe was a native of Peterborough County, where he was born January 26th, 1838. He received his early education in the Peterborough Grammar School. He studied medicine at the old Toronto School, and was graduated from Victoria University, afterwards studying in Bellevue Hospital, N.Y. During the American civil war Dr. Fyfe served as naval surgeon with the Northern forces for two years, and was present at the bombardment of Charleston, S.C. After returning to Canada, he practiced at Brampton, Hastings, and finally in Peterboro', where he worked up a large practice.

He was a county coroner for many years. He was a Liberal in politics, and in religion a member of the Methodist Church. In 1868 Dr. Fyfe married Miss Jessie Fletcher, of Woodstock, and she, with five children, survive him.

A large and impressive funeral service was held in the George St. Methodist church, at which the pastor and other leading citizens paid tribute to his memory, and testified to the sterling qualities of one who was beloved and honored alike as physician and citizen.

PERSONAL.

Dr. Guimont, of Quebec, has returned from taking special work at Philadelphia.

Dr. W. J. Anderson, of Smith's Falls, has been elected warden of the County of Lanark.

Dr. and Mrs. Walker, of Truro, N. S., have left on a four month's visit to Los Angeles, Cal.

The engagement of Dr. Rogers of Ingersoll to Miss Edith Hamdbidge of Aylmer has been announced.

Dr. McLellan, of 947 Talbot street, London, has gone to take a special course in the eye and ear hospitals in New York.

Dr. A. P. Kelly (Trinity, '98), formerly house surgeon, St. Michael's Hospital, Toronto, has begun practice in Orillia, Ont.

Drs. G. W. Howland and Geo. McLaren, of last year's staff in the Toronto General Hospital, are studying in London, Eng.

Dr. Ernest Hall, Victoria, B.C., who suffered from an attack of typhoid fever, we are pleased to learn, is able to be about again.

We are pleased to learn that Dr. Graham Chambers, of Toronto, who has suffered from a severe attack of appendicitis, is convalescent.

Dr. Wallace Scott, who has been engaged in practice at Cartwright, Ont., is at present taking post-graduate work in the Toronto Medical College.

Dr. H. B. Anderson, of Toronto, is spending a couple of months in New Ycrk, devoting his time to clinical medicine. He returns to Toronto about May 1st.

Dr. Harvey McNaught is visiting his parents in Toronto. He has recently received the appointment as superintendent of a sanitarium in southern California.

Dr. Charles E. Treble and Miss Treble, of Toronto, have left for Europe. Dr. Treble will put in some months in advanced work in London and continental hospitals.

Dr. W. Morrison, who has recently been engaged in practice in Pinkerton, has sold out to Dr. Tatham, M.B., Tor. '00, and has come to Toronto to engage in some post-graduate work.

Dr. G. H. Burnham has leased the residence formerly occupied by the late J. E. Graham, Bloor St. E., Toronto, and Dr. Geoffrey Boyd has purchased the property now occupied by Dr. Burnham.

Dr. Luther A. Allingham, (Trinity '90), who has been practising at Randsburg, California, died there on January 29th, at the age of 39 years. Dr. Allingham was a native of Peterboro' County, Ontario.

Dr. J. H. Allin, who has been practising at Bloomington, Wisconsin, has bought the practice of Dr. McKee of Petrolea, Ont. Dr. McKee leaves shortly to spend some time in post graduate work in Europe.

Dr. A. R. Perry, sometime of the resident medical staff, Toronto General Hospital, is visiting Dr. Stacey, of College street, Toronto. We understand that Dr. Perry intends opening an office in Winnipeg.

Dr. T. A. McCallum, of Dunnville, one of the best known physicians in the Niagara Peninsula, has been appointed superintendent of the Asylum for the Insane, London, Ont., in place of the late Dr. Buck.

Dr. Horace Norquay, of Dawson, a son of the late Hon. John Norquay of Winnipeg, was married recently. Dr. Norquay has a good practice, owns a drug store, and is an alderman in the City of the North.

Dr. R. W. Large (Trinity, '97), formerly on the resident medical staff of the Toronto General Hospital, and who has been practising in British Columbia, recently spent a couple of months in Toronto with his friends.

Dr. A. Dixon Wagner, one of the best known practitioners in the eastern part of Ontario, died at Cornwall on Feb. 13th, at the age of 53 years. The doctor was a graduate of McGill College and a prominent Mason.

Dr. J. W. Brien, of Essex Centre, who has been taking a post graduate course in New York, has resumed practice. Dr. R. F. Rorke, who had charge of Dr. Brien's practice during his absence, is visiting at his home, St. Thomas, Ont.

It was impossible for the Windsor, Ont. council to agree on the appointment of one of the candidates for the combined office of medical health officer and city physician at its last meeting, so the position was split in two, Dr. Richard Carney getting the office of city physician and Dr. J. A. Ashbaugh that of medical health officer.

The following physicians and surgeons have been appointed to the visiting staff of the National Sanitarium Association: Drs. W. B. Geikie, H. J. Hamilton, Gilbert Gordon, C. J. Hastings, W. Theo. Stuart, Allen Baines, J. T. Fotheringham, George A. Bingham, C. M. Foster, Beverley Milner, F. N. G. Starr, Wm. Oldright, F. T. McMahon, A. McPhedran, W. B. Thistle, R. J. Dwyer, G. A. Peters, G. Chambers, Andrew Gordon, Charles O'Reilly, D. W. McPherson, R. A. Stevenson, John Caven, J. J. Mackenzie, H. B. Anderson.

BOOK REVIEWS.

A PRACTICE OF OBSTETRICS

Edited by Charles Jellett, M. D., Professor of Obstetrics and Gynaecology in the Long Island College Hospital, New York. Second Edition, revised and enlarged. Illustrated with 445 engravings, 48 of which are in colors, and 36 colored plates. Lea Brothers & Co., New York and Philadelphia.

THE second edition of this work by the well known author assisted by eighteen contributors, the most of whom are prominent in the profession, is to hand. Important alterations have been made in the chapters dealing with the pathology of pregnancy and with obstetric surgery. Many new illustrations, mostly original, have been added.

The first edition was exhausted in two years and there is little doubt but that this one will be equally well received.

D. M. A.

THE DIAGNOSIS OF NERVOUS AND MENTAL DISEASES.

By Howell T. Pershing, M.Sc., M.D. Professor of Nervous and Mental Diseases in the University of Denver; Neurologist to St. Luke's Hospital; Consultant in Nervous and Mental Diseases to the Arapahoe County Hospital; Member of the American Neurological Association. Illustrated. 12mo. Published by P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia. 1904. Price, in cloth, \$1.25 net. Messrs. Chandler & Massey, Limited, Toronto and Montreal, Canadian Agents.

THIS work is not a text-book on nervous diseases, but is rather designed to afford the physician who is not a specialist assistance in neurological diagnosis. This is done by means of a series of tables containing the chief symptoms of the different diseases and these serve as a key which may be referred to in attempting to interpret a given case.

The first 70 pages deal with the examination of the patient and the general significance of symptoms and short chapters are devoted to the symptoms of hysteria, neuasthenia, &c.

This book will be found especially useful to practitioners and students who have difficulty in unravelling the intricate problems presented by many cases of nervous disease.

DISEASES OF THE DIGESTIVE ORGANS IN INFANCY AND CHILDHOOD.

With Chapters on the Diet and General Management of Children and Massage in Pediatrics. By Louis Starr, M.D., late Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Consulting Pediatricist to the Maternity Hospital, Philadelphia, etc. Third edition, rewritten and enlarged. Illustrated. Published by P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia. 1901. Price \$3.00 net. Messrs. Chandler & Massey, Limited, Toronto and Montreal, Canadian Agents.

THE third edition of Dr. Starr's well known work on diseases of the digestive organs of children, deals in a thoroughly practical way with this most important branch of medicine. Much obsolete matter has

been omitted and new sections have been added on simple atrophy, infantile scurvy, rickets, lithæmia follicular tonsillitis, adenoids, peritonitis and appendicitis. The general management and feeding of children receives especially full attention and the exact formulæ and specific directions for the modification of milk will be particularly appreciated by the young practitioner. Laboratory preparation of milk for infant feeding, while theoretically possessing many advantages, has not proved satisfactory in the author's experience.

The book is essentially practical, safe and up to-date in its teaching and altogether satisfactory. It is one of those works which one can refer to as an old and tried friend who never disappoints one's expectations.

CLINICAL HAEMATOLOGY.

A Practical Guide to the Examination of the Blood with Reference to Diagnosis. By John C. DaCosta, Jr., M.D., Assistant Demonstrator of Clinical Medicine, Jefferson Medical College; Hematologist to the German Hospital, etc. Containing 8 full-page colored plates, 3 charts, and 48 other illustrations. Octavo, 450 pages. Published by P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia. 1901. Price, \$5.00 net. Canadian Agents, Chandler & Massey, Limited, Toronto and Montreal.

HÆMATOLOGY has advanced so rapidly during recent years and the application of its methods is capable of throwing so much light on many diseases that a working knowledge of the subject is essential to every progressive practitioner. DaCosta's "Clinical Hæmatology" well represents the present status of our knowledge and describes fully in a clear, practical manner the technique of blood examinations in general and the limitations of their usefulness in practical medicine. The work is based on a careful research into the literature of the subject as well as on the author's own observations.

The plates representing stained blood specimens are accurate, and very beautifully executed. The work can be recommended as a full, practical and reliable exposition of hæmatology at the present day in its application to clinical work.

HIRST'S OBSTETRICS.

A Text Book of Obstetrics, by Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania. Third Edition. Thoroughly revised and enlarged. Royal Octavo. 73 Pages with 704 illustrations, many of them in colors. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth \$5.00 net. Canadian Agents: J. A. Carveth & Co., Toronto.

In this edition the book has been thoroughly revised, and much new matter added to many of the chapters, notably those treating of diagnosis and pathology of pregnancy, pathology of labor, and obstetric operations.

The work is profusely illustrated throughout, fifty new illustrations being added, three of which are colored plates. Also frequent reference (in foot notes) is made to the author's own private cases which greatly adds to the interest of the subject in hand. In the chapter on the pathology of labor there is an excellent article on the treatment of eclampsia, which is brief, rational, easily carried out and should be effectual in most cases of this alarming condition, so often fatal to the mother or child, and occasion-to both. In the latter part of his closing chapter the author devotes some twelve pages to the diagnosis and treatment of the more common diseases of the new-born, of necessity a short resumé of the subject but none the less useful to the practitioner.

J. T. F.

AMERICAN TEXT BOOK OF PHYSIOLOGY.

Edited by William H. Howell, Ph.D., M.D., Professor of Physiology in the John Hopkins University, Baltimore. Second Edition. Revised. Philadelphia: W. B. Saunders & Company. J. A. Carveth & Co., Toronto, Canadian Agents. 1901.

This work has been rendered more convenient by its division into two volumes, each one containing about six hundred pages and being of such a size as to be easily held in the hand while reading.

The first volume deals with blood, lymph, circulation, secretion, chemistry of digestion and nutrition, movements of the alimentary canal, bladder and ureters, respiration, animal heat and the chemistry of the animal body.

The second volume contains the general physiology of muscle and nerve, the central nervous system, special senses, hearing, cutaneous and muscular sensibility, equilibrium, smell and taste, physiology of special muscular mechanisms, voice, speech and reproduction.

The book deals with physiology solely and contains little, if any, histology, it being assumed that a knowledge of that subject is already possessed by the student.

It is essentially a students' book and as such has much to commend it, being clear, concise and thoroughly up-to-date.

F. F.

THE CANADA LANCET

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No. 8

HOW TO LIVE, TO PROLONG LIFE *

By SIR JAMES GRANT, M. D., K. C. M. G.,

President Tuberculosis Association of Canada, Consulting Physician to Their Excellencies the Governor General and The Countess of Minto.

THE various problems I shall introduce to your notice, as most closely associated with life, are in the lines of Sanitary Science, Food, Alcohol, Education, and Tuberculosis, and more particularly how, by a want of knowledge on these subjects, a soil may be formed in the human system, in fact a hot bed, for the reception of the Consumptive Bacillus, so frequent in our atmosphere, and so fatal as to its results.

Health is a quality of body difficult to define. It is dealt out differently at different periods of life, and is best defined as exemption from disease. My present object is to point out how individual health may be secured, and how a reasonable measure of health may be attained, in the life of the most ordinary individual, inasmuch as the number of years, is not actually so important, as the physiological age of the person, if we may so express it. In all civilized countries, laws exist to protect public health. The past history of the world presents certain epochs in sanitation, each of which possessed its own distinctive character, and guiding influences. The *Hebraic Epoch* of personal sanitation, as defined by the Levitical laws and laws of Moses, for the guidance of daily life. As the practical result a nation was brought into existence, strong, powerful and vigorous, courageous in war, and exercising a remarkable influence in establishing peace. Second, the *Roman Epoch*, known as the period of municipal sanitation, during which the vast water works and aqueducts of Rome were constructed, remnants of which are to be seen at the present time. The extensive baths in the vicinity of that ancient city are evidence should such be wanting, of the habits and life-giving principles of a people notorious throughout the world as to the development of remarkable mental and physical power. Next in importance is the era of *International Sanitation*, of which we have undoubted evidence in the remarkable changes in the sanitary condition of Havana, the outcome of the united efforts of the military, medical and sanitary officers of the

*Lecture Victoria College, Toronto. January 14th, 1902.

United States, changing that entire city, from a pest-stricken centre, to one now known as possessing health, comfort and happiness, with a death rate fully as low as in any advanced modern city, and redounding to the credit of the great neighboring Republic.

During the past quarter of a century, the progress and steady advancement in sanitary science is truly remarkable. Twenty-five years ago, the Council of the college of Physicians and Surgeons of Ontario passed a resolution recommending sanitary science as part of the medical curriculum in Ontario, and at present it is adopted by the various teaching bodies throughout our Dominion, greatly to the advantage of the public. To secure a still greater influence in health matters, the elements of public hygiene should be taught in our schools, which would in time reach our entire population. What an opportunity is thus afforded to advocate the gospel of preventive medicine, and save valuable lives! Much of what is called curative medicine, is swallowed up in preventive medicine, of which we have evidence in the stamping out of Small pox, Scurvy, Leprosy and Cholera, under the guidance and direction of sanitary authorities, and the medical profession are always ready and energetic, in this noble work, even at the expense of their own living. In this direction the department of Public Health, under Dr. Bryce, has accomplished most practical results. It is undoubted that Boards of Health, Vital Statistics and Public Hygiene are important factors in prolonging life. Woman's work in sanitation is an evidence also of the progressive spirit of the age. The woman's health protective association of New York, is a striking example of what can be accomplished in spreading the principles of health. In the sanitary betterment of Bakers' shops, and in the conduct of slaughter-houses, a remarkable change for the better has been wrought. Large play grounds and public parks for children have been secured, and school hygiene, as a whole, much improved. It has been well said, that the children of a nation constitute the physical capital of the future, and it is a national duty to safeguard our national capital. Societies of a like character have been formed in England and the continent, through which sanitation, with special reference to drainage, plumbing, ventilation, water supply and laundry, are subjects of most careful enquiry. Plumbers should be specially educated, and licensed, particularly as it is a well known fact, that defective sanitary arrangements in houses, and consequent escape of *sewer gas* causes the development of sore throat, diphtheria, scarlet fever, blood-poisoning, puerperal fever and even pneumonia. Sewage and general refuse matter, should be regularly and carefully removed. If consumed by fire, sawdust mixture, will supply the want. Pure air, sun light, and common earth,

are first class disinfectants, and prudent direction, as to house premises cannot be overestimated.

FOOD.

"The physiological principle of the preparation of food, is summed up in the postulate that it shall produce the highest efficiency in the individual and the 'race.'" (Thudichum).

Food supply is the controlling factor in all life, animal and vegetable alike. The quick transportation of food stuffs from various parts of the world has effected a remarkable change in food materials, and we no longer depend upon local production, keeping before us the important fact that the cost of food is no measure of its nutritive value. In the list of food materials, oatmeal is not surpassed as a producer of physical power. It makes more muscle, than beef-steak. The great Dr. Johnston was once informed, oatmeal was only fit for English horses and Scotchmen, and said he, "Where will you find such horses and such men." "Food is the only source of human power, to work or to think," and extends to the infant, the school child, the youth in college, the shanty-man, the military man, the aged; and the chief source of danger to the system is more in quality than quantity, and more people die from over-eating than from alcohol. A lack of knowledge as to the fundamental principles of the digestive system in many, is a source of common troubles, in that direction. The infant requires pure milk, sterilized and pasteurized, as in the drama of life, milk plays the most important part in the act of nutrition. The best and safest food for the infant is mother's milk, if free from disease. Society life contributes largely to the artificial method of rearing children, contrary to the plan of nature. The absence of teeth indicates the digestive power, and so in advanced age, even improved by the dentist, as the enthusiasm of youth abates, the quantity and quality of the food, must be carefully guarded. Here appetite frequently exceeds physiological need, hence it is necessary that the middle aged, as well as the advanced, should eat rather moderately, than too much. Frequent sudden deaths, in advanced life, are recorded, as the result of overloading the stomach. Such warnings of nature pass unheeded, and overwork bears the blame of sudden death at mealtime. Man frequently treats the stomach as if a machine, and not a part of the system, under the impression that *will power* is equal to any irregularity. Food is that which builds up the system, and constitutes the required force and energy, and no article, solid or liquid, should be taken, which will not supply *some part of the human structure*. Food for the child at school is only second in importance to that for the infant. *Scrap diet*, at this particular

time, is not suitable for mental or physical development, and so with the university student, he must have blood, rich enough in nutritive material, to supply the requirements of the system, so that after graduation day, he may be able to take his place in whatever line is chosen, for the duties and responsibilities of manhood. To the man whose brain is his capital, when enjoying his usual meal with *strength giving*, and not *strength sapping viands*, which make not one atom of the body, the mind should be directed to the meal and not the business of life. The brain digests more than the stomach, and unless direct normal nerve force is given to the digestive organ, the gastric juice supply is defective, and in time followed by serious results. The practice of drinking iced water at meals is injurious, causing a reduction of the normal temperature necessary for active digestion. Water should be taken in moderate quantity, at meal time, as an excess reduces the specific gravity of the gastric juice and retards digestion. According to Sir Borden Sanderson, M. D., of Oxford, a human body weighing 132 lbs. contains 111 pounds of water, the balance is made up by the various salts in the system,—hence its necessity, and the benefit of change in this liquid by the unsurpassed mineral springs of Canada, which wash and purify the various organs quietly and gradually, and thus exert a decidedly beneficial influence. Strength of stomach is as necessary to a soldier as strength of muscle, without which he is unequal to the trying duties of military life. Instruction in camp cooking, if made an element of the annual drill, would prove of great service to our troops, and add considerably to ordinary vitality. Food adulteration has assumed considerable proportions, particularly due to preservatives in food out of season and out of place, e.g., summer fruits in winter, and oysters 1000 miles inland. The ordinary preservatives are salicylic acid and boracic acid, which are harmful to the stomach. Alum is frequently used in baking powders, and bakeries, to whiten bread even from inferior flour. Thus alum poisoning is recorded. The cheap sweets of the present day are said to frequently contain an appreciable amount of free sulphuric acid, which dentists point out as a cause of a great degree of dental caries. Fortunately adulterated foods are now a subject of careful enquiry by Government Analysts, and thus the health of our people is guarded in keeping with the scientific progress of the age.

ALCOHOL.

At the present time, there are few influences of such wide and far-reaching effect, as arise in various ways, from the use and abuse of alcohol. Alcohol and crime, alcohol and poverty, alcohol and lunacy, have the strongest possible correlations. Intemperate agitation cannot, and

will not, accomplish much good. The remedy is not in "passionate declamation or coercive legislation." True, alcohol is one of the most active agents in the degeneracy of races. Alcoholic drinkers are by far the most subject to epidemic diseases, when such are prevalent, and with a lessened prospect of recovery. Arctic explorers, Rae, Kane and Nansen, required no alcohol for their crews, all of whom returned home enjoying the best of health and spirits. The brick and the mortar of the human frame are not held together by alcohol. It quietly and gradually undermines the vital forces, and establishes foundations of disease of an undoubted character. Alcohol at times, for therapeutical purposes, is advantageously prescribed by the physician, to which there can be no reasonable objection. Beer and porter are safe beverages when necessary in cases of debility of the system. The liver, the brain and kidneys are the chief organs which suffer from the use of alcohol, as they are said to receive the largest percentage, and from our public prints we note the frequent records of death from liver disease and Bright's kidney.

The general consensus of opinion at the present time is, that the use of alcohol as a beverage is gradually going out. In fact it is becoming more and more fashionable daily not to use stimulants, and it is remarkable what power there is in fashion.

"New Customs,

Though they be never so ridiculous,

Nay, let them be unmanly, yet are follow'd."

—*H. VIII., 1, 3.*

Our chief public gatherings are celebrated with the use of tea and coffee, and what can possibly be more in the line of common sense. The late Sir Benjamin Ward Richardson accomplished a great work in England by his efforts in educating the masses, through his writings, as to correct ideas on the subject of alcohol. What we require in Canada is the introduction in our schools of short lessons on hygiene and alcohol, to impress the youthful mind with the importance of these subjects, and in time, more will be accomplished by a reasonable and intellectual method rather than by the introduction of prohibitive measures into the Federal or local Parliaments of this country. As evidence of decrease in the use of alcohol, cases of delirium tremens, which came under observation almost monthly, thirty years ago, are not now seen in practice, once in two years.

An important movement is now in operation in England, fighting intemperance with alcohol, termed "The People's Refreshment House Association," with headquarters in London. Chief in this common sense idea, are eminent philanthropists and christian people, with the Bishop

of Chester as President. Tea, coffee and cocoa are obtainable at all hours, and kept in the front. Spirits and beer of every kind are in stock and served to all comers of proper age, not giving evidence of inebriety. This association only four years in operation, has already accomplished a good work. An association of more recent date is "The Public House Trust," operating chiefly in towns and counties. Chief in this movement are Earl Grey, Cardinal Vaughan, the Bishop of Rochester, Earl Stanhope, Lord Goschen, and many other equally distinguished men. The ordinary public house they are opposed to, is run for private gain, when it should be in the interest of the public. What is aimed at, is respectable places of refreshment, giving a better chance to non-intoxicants, than to intoxicants, and associating drinking more generally with eating. As the result, many have been led to see the error of their ways. This form of education in the hands of many leading persons in England, cannot fail to be productive of excellent results. Prior to coercive legislation in Canada, it is reasonable that a progressive move in this direction, should merit careful consideration, which would in time guide our people "how to live in order to prolong life"

EDUCATION.

As to education, the first requirement of a school is to preserve the children, scholars, in good health. A school cannot create health, but it can endeavor to preserve it. Imperfect ventilation, excessive studies, *too frequent cram examinations*, all contribute to overtax the mental and physical ability of the child, or even the adult. In child life, the home and the school are inter-dependent, and in strength of character as well as intellectual attainment there should be an even balance in the home and the school.

Within a few years only have the Boards of Health fully recognized these points. Medical inspection of schools was introduced in Boston in 1894, and in many of the American cities, is now an established principle; the good and practical results, disarming all opposition. School hygiene in the widest sense, is not merely for the avoidance of contagious or infectious diseases, but to ascertain any disease whatever of the system, and take immediate steps for the preservation of health and life. In the whole vegetable world no two blades of grass are precisely alike, and the same diversity is noted either as to facial expression, or mental capacity, and yet thousands of young people pass out of our schools and colleges on the same exact pattern. Thus in our active centres of trade and commerce, many are unable to obtain employment, not being equal to the occasion. Teachers, as far as possible, should endeavour to make out the natural bent of the scholar, and shape the course of study accordingly.

A compulsory uniform method of intellectual development is not likely to produce the greatest degree of usefulness in after life. Chicago has given evidence of a progressive spirit in educational policy. It is now required in their schools that candidates as teachers shall pass a physical examination, as well as an educational, before being licensed. The health of both teachers and pupils is guarded, thus securing better health, better temper and increased efficiency. This is an age of specialty, and when the inclination of the youth's mind is known, greater excellence will be attained in the future, by the direction of education to meet natural capacity.

As Gorst has well expressed it (*19th Century*, May, 1901) "the aim of education should be to get the best out of each individual and not to obtain an average of mediocrity, and that the enormous expenditure of public money upon the production of machine made human automata is sheer waste."

Fortunately a marked change for the better is now in progress in educational matters. Manual training, industrial training and technical education are coming to the front in Canada, due to the philanthropic efforts of Sir William Macdonald, and the able and lucid exposition of the subject by Professor Robertson. Such education tends towards the achievement of practical results to our Canadian youth so instructed as to be equal to any emergency in life with mental and physical development unimpaired.

TUBERCULOSIS.

Tuberculosis is to-day one of the most serious problems before our people. The world-wide interest in this subject has arisen from the discovery, that attention to a few simple rules of hygiene, has lessened to a remarkable degree, the death-rate from this disease. That tuberculosis is an infectious, and not an hereditary disease, is the general belief. The experience of the profession has shown that, in the majority of cases, prolonged exposure is necessary for infection from this disease, also that many cases will not produce infection, and that tuberculosis in general is conveyed, as in other infectious diseases, through food, meat, milk, butter, or the atmosphere laden with dry germs from the sputa of consumptives. As to the actually infectious character of this disease, it is prudent that the public should not be alarmed. The welfare of the public, as well as the tuberculous, should be carefully considered. This whole subject rests on the discovery of Dr. Koch, in 1882, of the specific "Bacillus Tuberculosis". According to the most recent statistics, every 6th or 7th death is due to tuberculosis, and the most common form is consumption. The Registrar General's returns (Toronto, January 21,) show that in a death rate of 25,736 in Ontario in 1901, the largest number of deaths in any class was 2,286 from tuberculosis, as compared with 2,300 in 1900. In 1898

there were over 3000 deaths from consumption in Ontario, more than the entire contingent sent to South Africa, who fought so nobly for the defence of "The Empire".

How can we check this disease? is a question frequently asked. In all places where people congregate, there should be properly placed cuspidors, well kept, and systematically cleaned. Carpeting in churches should be avoided to prevent saturation by impure expectoration carried from the side walks, and gradually as fine dusts, impregnating the air of the chamber, and particularly as human sputum is the main source of human tuberculosis. A handkerchief held before the mouth and nose of a consumptive while coughing, is a desirable precaution. In such cases all interviews should be brief.

Dr. Ferguson, Hartford, Connecticut, made the following statement, May 25th, 1899: "A house was vacated by a consumptive, and occupied by a family of whom *three* died shortly after of consumption". Such experience has been frequently recorded by the medical profession. In fact it is known that Tubercle Bacilli may remain active in a house for years. It is of the utmost importance that houses rented should be thoroughly purified and freed from such germs. A very consoling fact to the parents of consumptives is, that there is no danger of living with a consumptive patient, if proper precautions, such as simple measures of cleanliness, are observed. The Michigan State Board of Health, and the New York Board of Health, now require notification and registration of consumptives, and of tenement houses where such live. After death, official disinfection takes place, without which, it is illegal to re-let any room or house. Like action has been adopted by the City Council of St. Louis, and the Provincial Board of Ontario, Public Health Act, 1897, Section 101.

Fortunately, in keeping with the scientific progress of the time, such regulation against the spread of tuberculosis is becoming very general. The Council of "*The National Association for the prevention of consumption*", London, (Nov. 11th, 1901) passed the following resolution: "That, in the light of our present knowledge, the time has now come when the whole question of tuberculosis, including the treatment of suitable cases, in Municipal Sanatoria, should be undertaken by municipal corporations, and county councils, throughout the country". The act recently passed by the Ontario Legislature is precisely in these lines, with proposals of financial assistance, of a most commendable character. Statistics from sanatoria for consumptives in all stages of the disease, state that fully 25 per cent. leave cured, and 40 to 50 per cent. leave much improved and able to earn a good living. Public encouragement should be given to such desiring work, particularly as it is neither wise nor prudent at this stage to exclude the tuberculous from work.

An important record as to treatment in the *early stages of this disease* is, that from 70 to 75 per cent have been cured; hence the importance of early diagnosis. The yearly death-rate in Canada is estimated at between 7,000 and 8,000. In the United States, the death-rate annually is placed at 150 000, and in Great Britain, from 60 to 70,000. How truly saddening are such records and what a degree of apathy exists in our very midst, and more particularly when the most advanced ideas have changed from heredity and incurability to communicability and curability! This undoubted mortality has aroused the public to action. Conferences have been held in Vienna, London, New York and Ottawa City in 1901, the latter under the patronage of Their Excellencies, the Governor General, and The Countess of Minto. Fully 300 delegates from the Atlantic to the Pacific assembled, and much valuable information was given to the public. Executive meetings are now held monthly, and literature on this subject, published systematically, in many of the leading papers of Canada.

At this stage, with the able assistance of Church and State, we hope for practical results in lessening the prevalence of this disease. Our sanatoria, Laurentian Mountains, St. Agathe, also at Gravenhurst and the Toronto Home of Playter, are doing excellent work with most practical results. The sanitarium in the Adirondacks, under Dr. Trudeau, has contributed most valuable data on this subject, and thrown fresh light on obscure points in the pathology and treatment of consumption. The idea of a California Climate for treatment of tuberculosis is no longer considered a necessity in Canada. Fresh outside air, sun light, and hygienic precautions are the chief requisites, all of which we have within a reasonable distance of our homes and firesides. What we most require at present, are Sanatoria for the poor who cannot afford expensive institutions, and until such suitable buildings are erected, our hospitals should have one or more pavilions specially set apart for such cases. Verandahs and balconies are desirable additions for fresh air and outside life, in the event of a consumptive as an inmate, and in addition a hospital room in the house would prove a comfort alike to parent and patient. Would we had a second Sir Ernest Cassel who recently placed in charge of His Majesty King Edward the VII, the munificent gift of \$1,000,000 to be expended in the cause of consumption.

In conclusion, let me say I have referred briefly to sanitary science, food, alcohol and education, inasmuch as in these lines of action the want of proper care and watchfulness may bring about in the human system a *soil*, a fit *resting place* for the "*Bacillus Tuberculosis*" and contrary to the *defined principles of health*, so necessary to our people having so bright a future in store, enabling each and every one *so to live as to prolong life*.

SOME OF THE DIAGNOSTIC AND THERAPEUTIC USES OF THE ROENTGEN RAYS.

JAS. THIRD, M. D., Kingston.

THE Roentgen ray, as a diagnostic agent, is no longer an experiment. Its growth has been phenomenal. It came up through the stage of criticism with unprecedented rapidity, receiving few scars and for these it is therapeutically the richer. That too much has been claimed for the ray in certain quarters, seems tolerably certain, but it is equally true, that inexperience and inferior apparatus, have not infrequently discounted its true value. Its real enemies at the present moment are its rash inexperienced and selfseeking advocates.

Some physicians would limit its use to the detection of foreign bodies and the recognition of certain fractures and dislocations but these are the limitations of its natal day; as well might we limit the use of the microscope to the recognition of the grosser tissue-elements.

With a view to demonstrating its wider range of usefulness, I have collected from my notes covering a period of upwards of six years the necessary data for this paper.

Foreign bodies.—The following have been located in various parts of the body: bullets, shot, needles, coins, slate pencils, pieces of glass, iron and copper.

The following case of bullet-wound is interesting as showing the tolerance of certain portions of the brain:—

A. L. aged 35, admitted to the hospital Nov. 5th, 1898. Service of Dr. Garrett. Referred for examination by Dr. Emery, Gananoque.

The bullet, a 32, entered the external meatus of the right ear and lodged, as the x-rays showed, in the right frontal lobe two centimetres from the angle of junction of the horizontal and vertical portions of the frontal bone and directly over the centre of the right orbit. Dr. Emery dressed the external wound a few minutes after the accident. No symptoms followed. No attempt was made at removal. The patient is now, three and a half years after the accident, carrying on a successful business in a neighboring town.

Fractures.—The list comprises the following:—fractures of the zygoma, inferior maxilla, skull, radius, ulna, metacarpals, fingers, humerus, clavicle, coracoid, ribs, femur, patella, tibia, fibula and metatarsals.

From my limited observations the following conclusions are drawn, first, that fractures of the metacarpals and metatarsals and of the lower end of the radius and the ulna are the most frequently overlooked and, secondly, that no absolute rule can be laid down with regard to the line

of fracture, even when the causal factors are similar and seat of fracture the same.

P. S. J. aged 34, examined Oct. 7th, 1898, farm laborer. Three months previously, when harvesting grain, the load upset throwing him down an embankment a distance of 20 feet. Diagnosis—"severe sprain of instep". The foot is still swollen and passive movements of the toes are difficult and painful. Examination by the ray shows a fracture of the second metatarsal bone with incomplete adaptation and excessive callus formation. The significance of the popular expression "a bad sprain is worse than a break" is apparent.

With regard to the line of fracture, generally speaking, fractures of the long bones about the middle of the shaft were transverse, while those at either extremity were more or less oblique. The Colles' cases were exceptions. In all but four of these the line of fracture was transverse, in these it was transverse and longitudinal. The styloid process of the ulna was fractured in 28 per cent. of my Colles' cases.

Dislocations.—The list is somewhat limited and comprises only dislocations of the shoulder, elbow, thumb, patella and wrist. The only one of especial interest occurred in the practice of the late Dr. Christie of Seeley's Bay. The patient gave a history of having fallen from a high vehicle. When first examined, some hours after the accident, the wrist was greatly swollen and a provisional diagnosis of Colles' fracture was made and the patient asked to return in a few days. One week later the case was referred to me for x-ray examination, when the following condition was found:—fracture of the styloid process of the ulna, backward displacement of the ulna, the head of the bone resting on the pisiform, radius not fractured but displaced outwards, articulating only with the scaphoid.

Diseases of bone.—This series includes 312 cases divided as follows: Tuberculosis, 267; Subperiosteal abscess, 9; rickets, 10; bony ankylosis, 7; exostosis, 6; loose cartilages, 6; syphilitic dactylitis, 4; osteo-sarcoma, 1; chondro-sarcoma, 2. The order of frequency of tuberculous invasion of joints was as follows: knee, hip, wrist, elbow, calcaneo-astragaloid, ankle.

The hip joint, owing to the density of the muscular structures, offers considerable difficulty and a correct diagnosis can only be made by one experienced in interpreting the finer shadings of a negative. Except in advanced cases, I have not been able to diagnose the condition with the fluoroscope alone. In fact, in all diseases of bone, one or more skiagrams should be taken in order that the negative may be carefully studied. In doubtful cases stereoscopic skiagraphy as suggested by Prof.

Girdwood, Montreal, should be resorted to. The limb is skiagraphed from two points and the pictures carefully mounted and examined in the reflecting stereoscope. There is perhaps no better method of studying a fracture or of localizing a foreign body. Differences of opinion may exist regarding the utility of the ray in the diagnosis of tuberculous processes in the lung, but in tuberculosis of bone the ray so far outstrips all other diagnostic means at our disposal that its routine use cannot be too strongly urged. My joint cases have impressed upon me the importance to the patient of an early diagnosis. With appropriate treatment the results have been most gratifying.

The frequency with which the tuberculous process begins in the calcaneo-astragaloid articulation, extending subsequently to the ankle-joint, must be specially referred to. My series shows tuberculosis of this joint to have been more frequent than that of the ankle-joint, and my observations would lead me to believe that the tuberculous process in ankle-joint cases not infrequently finds its starting point in the calcaneo-astragaloid articulation.

T. M., aged 26, Dr. Northmore, Bath. Patient gave a history of a sprain of the ankle in alighting from a rig. Pain disappeared in a few days. Ankle remained weak, however. A mis-step would cause return of pain. About six weeks after the first "sprain" the pain and swelling about the ankle-joint were marked, the skin dark and shiny and he consulted his physician who suspected tuberculosis and referred him to me for x-ray examination.

A skiagram showed tuberculosis of the calcaneo-astragaloid articulation, both bones being affected but chiefly the astragalus. In three months under appropriate treatment, he was able to bear his weight on the foot and he has since (18 months) remained well.

Miss G., age 16, Oct., 1900, Dr. Emery, Gananoque. No history of injury. For past three months she has complained of pain in the instep worse in the evening and especially at the menstrual epochs. Foot and ankle much swollen and very tender. In this case the os calcis was not involved but the process had extended rather more than half way through the astragalus towards the ankle-joint. Dr. Emery began treatment at once, and reports (Apl. 28th, 1902) patient perfectly well.

Sub-periosteal abscess.—Frank K., age 11, admitted to hospital Oct. 2nd, 1897. Service of Dr. Anglin. History of injury, complained of pain in the lower part of the thigh, no swelling or discoloration; tenderness on deep pressure. Skiagram showed a large sub-periosteal abscess at the junction of the middle and lower third of the shaft of the femur.

Rickets.—The fluoroscope will at once show the deformity, but a

plate should be taken in order to accurately estimate the degree of lessened density of the bones. The following comparison of healthy and rachitic bones explains the diminished density* :—

	Normal bones.			Rachitic bones.	
	Tibia.	Ulna.	Femur.	Tibia.	Humerus.
Inorganic matter ,....	62.3	64	20.6	33.6	18.8
Organic matter.	34.68	35.9	79.4	66.3	81
Calcium phosphate...	57	56	14.7	26.9	15.6
Magnesium	1	1	.08	.08	
Calcium carbonate....	6	6	3	4.8	2.66
Soluble salt.....	.7	1.6	1.6	1	1
Ossein.....	33	34.9	72	60	81
Fats.....	.8	1	7	6	

Loose Cartilages.—These cast a shadow varying in density between that of bone and muscle. Should two negatives, taken at right angles, fail to locate the loose cartilage, the joint should be freely manipulated and again skiagraphed.

Bony Ankylosis—Osseous ankylosis can be readily diagnosed with the fluoroscope.

Mrs A., aged 35. Referred for examination by Dr. Carscallen, Enterprise. Pain in left tarsus began at age of 14 and has continued at intervals ever since. At times the foot was greatly swollen. This subsided under rest and treatment. The pain has always been worse at the menstrual periods. The skiagram showed bony ankylosis of the tarso-metatarsal articulation.

Exostosis.—The list comprises but six cases, three on the metatarsal bones, two on the metacarpals and one on the tibia. To these may be added seven firm tumors in which the bone was only indirectly affected, these were probably syphilitic. They disappeared under the prolonged use of the iodides.

Calculi.—The recognition of these in the kidney, ureter or bladder depends to a very great extent on the amount of inorganic salts contained in them. I have so far utterly failed to locate uric acid calculi. The

* Hallburton's Physiology.

oxalates offer less difficulty. . Calculi composed of uric acid and oxalates, or uric acid and phosphates, can be skiagraphed the density of the shadow being proportionate to the amount of inorganic matter in the calculi. The x-ray negative is much more satisfactory than the fluorescent screen in making examinations for calculi. Unless the stones are very large and composed of oxalate or phosphate of calcium the screen is valueless. Gall-stones are recognized with great difficulty especially in stout persons. Beck, at a meeting of the New York Academy of Medicine January 1901 showed several good skiagrams of gall-stones. As apparatus and technique improve we may hope for better results in this direction.

INTERNAL ORGANS.

Heart.—The outlines of the heart stand out prominently on the fluorescent screen. This is especially true of the left ventricle. The pulsations can be counted even by the most inexperienced. We have no other means of acquiring so accurate information of the size and location of the heart, as that given by the ray. Every physician has experienced, for example, the difficulty in distinguishing between dilatation of the heart and pericarditis with effusion. A diagnosis without the ray is notoriously uncertain, with it, the task is comparatively easy. In pericardial effusion the regular wavy outline of the left ventricle, with each systole, is no longer evident, its place having been usurped by a bulging mass, the appearance of which, is at once diagnostic. Among other displacements, readily recognized, those the result of pleuritic adhesions, pneumothorax, pulmonary fibrosis etc. may be mentioned. The degree of displacement of the heart, following pleuritic effusion, cannot be accurately determined by percussion, since the heart may be pushed into the body of an emphysematous lung and the dull area therefore much lessened.

Displacement simulating dextrocardia.—In the autumn of 1897 a negro masqueraded among the physicians of this section, bearing in his hand from a physician of a neighboring province, a diagnosis of dextrocardia. He talked glibly of stethoscopes, auscultation etc. and incidentally mentioned that a small fee of a half a dollar usually accompanied the privilege of examination. It was a rare chance and few physicians refused to contribute to his depleted treasury the amount named. The fluoroscope showed only a slightly enlarged heart, drawn somewhat to the right side, probably as a result of pleuritic adhesions.

Chronic Endocarditis.—A. B. aged 57, laborer, rheumatism at 19. Physical examination of the chest May 4th, 1897 revealed the presence of a mitral systolic murmur with increased area of cardiac dulness.

Examination of the heart, with the ray, showed a transverse diameter of 13.8 centimetres. (About 11.5 is the normal for an adult male). On July 16th, after two days of rather laborious work, the lower portions of both lungs showed considerable cloudiness. Rest in bed, no drugs, other than a purgative. On the evening of the 19th the lungs were clear and he resumed work the following morning. On August 14th the lungs were again examined with the ray and fully half the lung on either side showed cloudiness. As the patient was not complaining of shortness of breath etc. nothing was said to him, and he continued his work. At this time dulness could not be elicited on percussion. On the evening of Labor day, after considerable walking, the ankles were swollen and the shadows on the screen of the oedematous portions of the lungs were much denser. The condition gradually grew worse until on October 7th the limbs were swollen to the knees and the lungs, with the exception of their apices, were scarcely permeable to the rays. The movements of the diaphragm could not be made out. Rest in bed, purgatives, digitalis and an occasional hypodermic of morphia restored the balance.

Frequent examinations of this patient, extending over a period of two years, showed, first, that the volume of the heart in valvular disease varies much, and secondly, that the earliest evidences of a broken compensation were to be found in the lungs, especially in their most dependent portions.

Thoracic Aneurism. The shadows on the screen are very varied depending on the size and location of the aneurism. An accurate diagnosis of a small aneurism is always difficult and sometimes impossible, by our ordinary methods. A careful x-ray examination will show a well defined dark area above the heart, whose pulsations are synchronous with those of the heart itself. If the sac is filled with clot there may be no pulsation, clotted blood, however, casts a shadow much darker than normal blood. The aneurism if large will throw a shadow on both sides of the sternum, if small and on the decending arch on the left side, and if small on the ascending aorta on the right of the sternum.

Lungs and Pleuræ. In some cases the x-ray may add nothing to the information obtained by our ordinary methods; but the ability to make the usual physical examination of the chest, and then, to look at the problem, by means of an x ray examination, and thus consider the question anew, confirming or disproving the first opinion, is a gain that no physician, who is familiar with diseases of the chest, or who has taken the trouble to acquaint himself with the possibilities of the ray, will for a moment question.

Pleuritic effusions, like pericardial effusions cast a dark shadow on

the screen or plate and therefore with the lung give us the necessary contrasts. This applies equally to the sero-fibrinous and purulent exudates. Movement of the patient shows a disturbance of the surface of the fluid except of course in encysted pleurisies.

In pneumonia the areas of consolidation can be accurately determined. The intensity of the shadow depends on the degree of consolidation. In some cases the absorption of rays is complete. The excursion of the diaphragm is limited on the affected side, owing either to hepatization or to pleuritic adhesions.

Central pneumonias, that offer so many obstacles to a correct diagnosis by our ordinary methods, are easily recognized by an x-ray examination. In 72 per cent of my pneumonias, the pneumonic process began, in that portion of the right lung, lying between the second and fourth ribs involving later the lower portion of the lung, rarely the upper.

Stomach. I have not found the ray of great value in the diagnosis of gastric affections. The size of the cavity can be estimated by using a metal-tipped stomach tube. Translumination of the body with the tube *in situ* will afford fairly accurate information of the presence or absence of dilatation. It is of much greater value than Einhorn's stomach-lamp in the diagnosis of gastroptosis. I have not used Turek's gyromele. Where there is decided objection to the passage of the tube, an ounce of pure subnitrate of bismuth, taken with a little bread and milk, answers very well. This salt is fairly opaque to the rays.

Liver.—The upper portion of the liver can be determined with certainty on the fluorescent screen, the lower border, however, except in children, requires a plate; enlargement, atrophy or displacement can be readily diagnosed.

Spleen.—In children and young adults, the spleen can be seen with the fluoroscope, ascending and descending with the diaphragm. With each respiration it has the appearance of turning a somersault owing to the greater degree of movement of its anterior border.

Kidneys.—Both kidneys can be skiagraphed, the left more easily than the right, owing to the relation of the liver to the latter. In the examination of the abdominal viscera, it is necessary for the patient to fast and for the bowels to be thoroughly moved.

PULMONARY TUBERCULOSIS.

The number of recoveries being about inversely as the duration of the disease, too much stress cannot be laid upon the importance of an early diagnosis. The outlook is decidedly more promising before there is either cough or definite physical signs. When tubercle bacilli are found

in an abundance of sputum the case is not one of early tuberculosis. To keep the patient under observation, until suspicion develops into apprehension and apprehension into certainty is a reproach on our diagnostic acumen. The earliest beginning of a tubercle in the lung can not be detected by any known method; the Roentgen rays, however, will pick out a tuberculous focus, in many cases, before either the stethoscope or microscope. To infer, however, that the rays can diagnose tubercle off-hand would be a mistake. As with the stethoscope, so with the ray, we must carefully consider each individual case. In our examination with the ray we look first to the diaphragm. Physiologists tell us this muscle becomes flatter with each inspiration. This is a mistake. It plunges up and down piston-like, the curve remaining practically unaltered. Even when the disease is confined to an apex, the movement of the diaphragm on the affected side is much less than on the non-affected. Lessened excursion of the diaphragm, together with a cloudy or flocculent shadow of an apex or other portion of lung on the screen, should excite our gravest suspicions. A careful consideration of the case, using all the other means at our disposal will usually clear up the diagnosis. One other point—the diagnosis of a cavity. That the x-ray can detect a cavity in the lung is a fact beyond question; that auscultation frequently diagnoses a cavity, which the rays show has no existence is also a fact. This I have verified in the *post mortem* room.

THERAPEUTIC USES.

Therapeutically, the x-rays are in the early stage of development. That certain skin lesions should be relieved by the rays without causing either pain or inconvenience to the patient, is surely marvellous but it is nevertheless true. Just how they act is not known. It was believed that the inflammatory process set up—the x-ray dermatitis—was sufficient to injure the life conditions of micro-organisms, and therefore their continuance, but this had to be modified, in view of the fact, that healing can take place without any evidence of preliminary dermatitis.

In 1898* I called attention to the fact that certain garden seeds germinated in three days, under daily exposures of an hour to the rays, while those not exposed but otherwise similarly treated, germinated on the sixth day.

One of two theories, it seems to me, must be accepted, at least tentatively, either that the rays act directly as a bactericide under certain conditions, or that they act indirectly as such, by increasing the vitality of the tissues sufficiently to overcome the bacterial agency. Investiga-

* Kingston Medical Quarterly.

tions along this line have shown that the rays have little bactericidal effect when applied to the culture in the tube, but we must not rely too implicitly on such evidence. The conditions differ. In the one case, we have the ray alone, in the other the ray plus the *vis medicatrix naturae*. Further investigations, however, are necessary.

Among the list of diseases said to be amenable to x-ray treatment, I can speak with some confidence regarding the following:—lupus vulgaris, rodent ulcer, cancer of the lip, psoriasis and cancer of the breast.

I have under treatment a case of secondary carcinoma of the breast, the primary growth having been removed some months ago and diagnosis verified. Before treatment was begun the tumor was about the size of a tangerine orange with an ulcerating surface covered easily by a ten cent piece. At present after twenty-one treatments, the pain is gone, the ulcer healed, and the tumor reduced one half in size. Many of the enlarged axillary glands are now not palpable. Will the tumor entirely disappear? It seems probable. Will it return? Time will tell.

Cancer of the Lip—A. S., age 36. Family history: mother died from cancer of the breast. Seven months ago a "cold-sore" appeared on the lower lip. Scales formed which loosened and fell off, or were picked off, every few weeks. During the past month the growth has increased more rapidly and he now complains of pain. The indurated mass is about the size of a plum, the raw surface 1.5 centimetres in diameter. Enlarged glands can be felt below, and a little to the left of the symphysis. Treatment was begun on Feb. 17th, and continued on alternate days until March 25th, when all induration had disappeared and except for a slight pallor that portion was as smooth and natural as the balance of the lip. Of the diagnosis there seems little doubt. Permission to remove a small section for microscopical examination could not be obtained.

Rodent Ulcer.—Mrs. R., age 67. History of injury to forehead in 1873. A few years afterwards the skin broke and the wound has been discharging and gradually extending its boundaries in a circular direction ever since. On January 10th the affected area extended from the glabella backwards in the median line 12.5 centimetres, the transverse diameter being 10.2 centimetres. The bone corresponding to this area is entirely gone with the exception of an exposed strip 1 centimetre in width and 5 centimetres in length, along the left border. The brain can be seen pulsating through the meninges and the longitudinal fissure can be made out. Treatment was begun Jan. 10th with a soft tube at a distance of eight inches, the body and the rest of the head being protected with sheet-lead. The offensive odor and the pain, except that due to the exposed bone, was entirely gone Jan. 20th. On March 29th the ulcer was entirely healed

save a narrow strip along the edge of the protruding bone. The late Dr. Saunders injected Koch's tuberculin in 1891, but without effect. Patient is still under treatment.

CAUTION !

One word of caution in conclusion. As a therapeutic agent the outlook is hopeful, but let us "make haste slowly." As a diagnostic agent the great value of the ray cannot be questioned, but we must not lose sight of the fact that it is a powerful weapon, a double-edged sword. For the present, at least, let us consider it a valuable adjunct to other means of diagnosis rather than a keen competitor for supremacy. We must not abandon the old method of drawing conclusions by a process of inductive reasoning after a thorough and searching examination. To do so would make us mere automatons.

There are three things that should never be placed in the hands of the patient: the hypodermic syringe, the thermometer and the x-ray photograph. The abuse of the first is so general that it must ere long engage the attention of the profession, while every physician has witnessed the miserable wrecks made of certain neurotic patients as a result of the ignorant interpretations attached to slight daily variations in temperature. The same may be said of the x-ray photograph. The interpretation of many plates is difficult and long experience is necessary to guarantee safe conclusions. There are many pitfalls into which the unwary may drop. Much discomfort may be caused the patient, and annoyance the surgeon, from the realization, by the patient, that the union of his fractured bone is not a piece of cabinet work, notwithstanding the fact that that union is sound and function perfect. The conclusion naturally follows that the Roentgen rays must be in the hands of physicians and surgeons, not laymen, and that they must learn to interpret their results just as they have learned auscultation and percussion; and, finally, it is only from those whose experience and careful study of the subject warrant their speaking with authority that an x-ray diagnosis should be accepted. In this way only, will the public be benefited and the profession protected.

INFECTION AND CONTAGION.

By E. B. SHUTTLEWORTH, PHAR. D., F. C. S.,

Bacteriologist to the Board of Health, Toronto.

THE words *infection* and *contagion*, with related terms, have been and are used in a very loose and indefinite manner by lay writers, as well as those of the medical profession. The original verb *infectio*—which by the way is not classical—signifies to dip or infuse into, to dye, stain or taint, without reference to the mode by which the taint is communicated; while *contagion*, from its obvious derivation, implies absolute touch. When viewed in this light an infective disease would be one capable of transmission in any way, and all communicable diseases would be included, while those of the contagious class would be limited to such as pass from individual to individual, by contact.

This is in harmony with the view of most of the older lexicographers, but others, and not a few early writers, regarded infection and contagion as synonymous. This may be remarked in the use in which Shakespeare and his contemporaries sometimes employed the word. Lord Bacon was evidently of this number, as may be judged by his saying that infection and contagion are communicated “from body to body, as the plague.” However this may be it is a fact that some authorities of the present day hold the words to be synonyms, while the bulk of the public, and many of the profession, employ them indiscriminately. It has been stated, with some degree of probability, that this interchange is due to the fact that the word *contagion* is destitute of any verbal form, while the phrases, to infect, or to be infected, are the only convenient forms of expression.

On this side of the Atlantic there has developed, in general literature, and ordinary conversation, a shade of meaning which seems to be pretty widely accepted, even by the profession. Infection is thus held to indicate a taint, of a more or less subtle and not necessarily material character, perhaps of the nature of an emanation or effluvium, transmitted in an obscure way, or through an aerial medium. The corresponding idea of *contagion* seems to occasionally carry with it a suggestion of something more material, but differing in that it may only be communicated by touch or direct intercourse. Thus, syphilis and sorrow (closely related) are said to be contagious, and malaria and music infectious. While these nice distinctions are recognized by some persons, they will at the same time speak of clothing, instruments, etc., being infected—a mode of expression entirely inconsistent with the more material character of the taint, as well as its mode of communication.

Enough has been said to show that, at least for medical purposes, it

is necessary to remedy, as far as possible, this uncertain and even contradictory etymological condition by remodelling these definitions that they may get abreast, or keep in advance of the rapid strides that have been made in the etiology of disease. A few years ago one might have safely claimed that malarial fever was the very type of an infective disease, born of marshy emanations, possibly vaporous in character, transmitted through the air, and not contagious. Laveran has shown us that the infection is not only of a material character, but is a living organism which, dwelling successively in insect and man, completes the cycle of its existence, and which can only pass to the intermediary host by that peculiarly close contact, amounting to actual inoculation, that is characteristic of the attention of females of the genus *Anopheles*, and of mosquitos in general. Yellow fever was and usually is classed pre-emminently as a contagious disease, communicable directly, from person to person, or by contact with fomites. The recent researches of the U. S. Army Commission in Cuba seem to show that such is not the case, but that the chief and perhaps only means of transfer is again through the instrumentality of a mosquito—*Stegomyia taniata*—which carries a yet undetermined infection from person to person. It has been demonstrated, with some degree of certainty, that non-immunes run no risk by contact with yellow fever patients, or by manipulations in post-mortems, nor, directly, by contact with fomites. In the last experiments, made in the Havana hospitals, the beds of non-immunes, carefully protected by gauze, were placed side by side with those of severe cases of scarlet fever, and the occupants of the former suffered no injury. This apparently showed that old ideas of the nature of the contagion of this fever, and of its mode of transmission, must be entirely revised. Even in the case of the dread plague itself—"the pestilence that walketh in darkness"—our conceptions of the mysterious character of the infection have been brought down to the demonstration of a simple microscopic plant, the *Bacillus pestis*, which as often as not is transplanted by the very commonplace agencies of rats and fleas.

To classify a disease as infective, in the most restricted acceptation of the term, is almost equivalent to admitting that its mode of transmission is unknown. The number of such diseases is rapidly increasing, and that they will thus exist at all, as a separate class, is only a question of time. In order to pave the way for this result, and also to clear up for the present a very tangled subject, it appears necessary to accept or formulate definitions sufficiently elastic to admit of their application to varying conditions, and yet exact enough to bring their meaning within well understood limitations.

The suggestions of Kanthack, in Allbutt's work, leave little to be de-

sired as far as comprehensiveness is concerned. Under infective diseases he would include only those which are caused by living pathogenetic germs, which enter the tissues from without, and are capable of multiplying therein. If interpreted rigidly this would exclude such diseases as variola, rubeola, scarlatina, pertussis, parotitis, syphilis, dengue, and others, which so far have not been clearly traced to a definite microbic source. It is however evident from the way in which Kanthack uses the term that he assumes that the inclusion of these diseases is at least likely. If they are allowed to hold this tentative position it seems probable that they will ultimately fall into line, and meanwhile the assumption of a germic origin constitutes, as has been said, "a good enough working hypothesis."

If this be admitted the noun infection would indicate the material concerned in the transmission of such diseases, whether by absolute contact, fomites, or through the air, and would of course include contagion, in its general as well as its most restricted sense. It seems reasonable and convenient to adopt this comprehensive meaning, but still drawing a line between infection and intoxication, the latter being confined to the operation of unorganized substances, as chemical gases, poisonous drugs, bacterial toxins, or other non-living matter.

It is difficult to define the term contagious without previously deciding what is meant by contact. Ordinarily and strictly it expresses the state of two bodies touching each other, and, so understood, would illustrate the word contagious as applied to diseases like syphilis, gonorrhœa, or scabies, which are commonly transmitted in this direct way. It is however possible that these usually obligatory parasitic diseases can be communicated by contact with an ectanthropic body which has been touched by an infected individual; that is to say that A may infect B by direct contact, or indirectly by fomites, as through C. This represents the exceptional and indirect channels for the diseases named, but which are not uncommon for variola, diphtheria, and some of the exanthemata. Again, the mode of transmission may be through the medium of the air, which actually implies contact, first with the infected article, and then with the object receiving infection. This would be a very unlikely and almost impossible mode of carrying the *materies morbi* of the diseases included in the first class, but is common enough in regard to the second, while it is perhaps the only way by which yellow fever, relapsing fever, and malaria are transmitted.

It is evident that the meaning of the word contact must be extended to meet these various conditions. Kanthack says that for want of a better term he employs it not only to mere touch, but to denote any form

of infection or inoculation "whether through the broken or unbroken cuticle, the respiratory or alimentary tracts, or in any other possible way." According to this the words infectious and contagious would be strictly synonymous, and there would no longer exist any difference between these classes of diseases. The resources of the language would, moreover, be inadequate to characterize conditions which are exceedingly common, and are recognized by all classes, lay and professional. For example, some two years since, a woman, impelled by curiosity, partly opened the door of the waiting room at a station a little east of Toronto, and glanced momentarily at a smallpox patient confined therein. After the usual incubative period of twelve days she was attacked by the disease. Surely there should be some word to distinguish an affection of this character from one like gonorrhœa, and there thus appears to be a field for the neologist.

The difficulty may be to some extent met by adopting, in part, the old distinction in regard to direct, indirect, or mediate contagion. The former would provide for infection from individual to individual, and either of the latter would cover the indirect ways, of course including that through the air. It would however be much better to accept aerial contagion as a subdivision of the indirect class, and so separately designate it. These divisions are of course far from scientific, but are temporarily convenient. The whole subject must some day be remodelled on a basis provided by a thorough knowledge of etiological conditions.

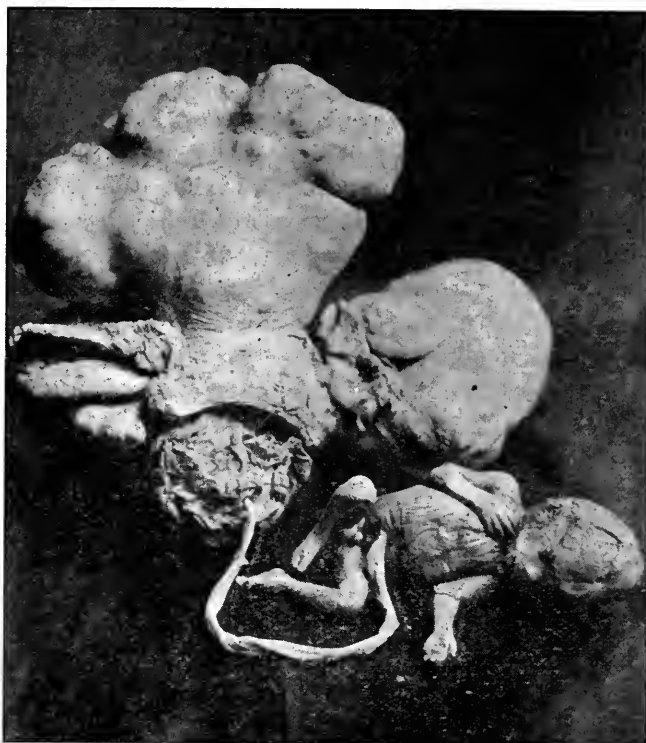
The main points may be summarized as follows :--

Infective diseases include those that are contagious, and are such as are caused, or appear to be caused, by living germs.

Diseases which are *directly contagious* are communicated by contact, from person to person.

In *indirectly contagious diseases* the infection is through some intermediate agency, which may be the air.

Diseases which are *aerially contagious* are due to air-borne infection, whether through the medium of insects, floating particles, or other material substances.



Multiple Uterine Fibroids.—First view.

MULTIPLE UTERINE FIBROIDS COMPLICATED BY A THREE MONTHS' FOETUS.

By JOHN M. MACDONALD M.D.
Acton, Ont.

PATIENT about 40 years of age. Previous to the 10th of October, last the patient had noticed herself stouter than usual but until about that date was not at all uneasy about it.

For some time previous she had a pain in her back when in bed and was troubled with fr. quent micturition.

Having indulged in a three days' drive which made her ill, she came to me on October 13th.

Examination showed a large cystic mass on the left side and far removed from the median line. There were hard nodular masses on the right side and above the umbilicus. Bimanual examination discovered other masses located more deeply. She had been married six weeks.

I operated on October 17th; Dr. Thos. Bradley, of Georgetown, gave the anaesthetic and Dr. Thomas Grey, of Acton, assisted me. The median incision was made from left side of the umbilicus to the pubes.

On opening the peritonæal cavity a considerable quantity of clear fluid escaped. The cystic portion was now brought to view and I was altogether ignorant of its nature till I punctured it, when some dark placental blood escaping I recognized the cyst as uterus diverted far from the median line by masses of fibroids. So stopping the blood, I drew the cyst (or rather uterus) through the wound. Very few adhesions appeared so the fibroids were very easily drawn out through the wound. The ovarian and uterine vessels were tied and cut through between double ligatures. In like manner all the broad ligament was dealt with.



Multiple Uterine Fibroids.—Second view.

The uterine peritonæum was cut through all the way around in such a manner that the plane of circle thus described in cutting was parallel to the plane of the long axis of body and at right angles to long axis of uterus. This enabled me to raise the masses higher up out of the abdominal cavity. Now raising the masses gradually as high as possible out of wound, (Patient in Trendelenburg posture), and as much at right angles to long axis of body as possible, so that the ureters would be out of the way, I now removed the whole mass from the stump always cutting between two ligatures. The lips of the V shaped stump was now brought together and the peritonæum was stitched over the stump and over site of the broad ligaments etc. The wound was closed in the usual manner. Operation lasted two and one half hours.

When the operation was over I cut open the uterus and out came the foetus whose picture appears above.

The photos will illustrate better than words the true state of affairs.

Patient was in bed three weeks in all and four weeks from day of operation came to my office to see me.

Patient used to weigh 140 lbs. Two years ago last Christmas she weighed 133 pounds. The first time I saw her she was reduced to 115 pounds. The day before Christmas, two months after operation, she weighed 125 pounds, and was able to do her work provided she had no lifting to do. To-day she is quite well and strong.

A CASE OF JACKSONIAN EPILEPSY.

By FRANK W. HALL, Victoria, B. C.

LILLIE B. Age 10 years, a healthy, well developed child ; two years ago first developed true Jacksonian, or cortical epilepsy ; the contractions beginning in muscles of the left hand, thence to muscles of entire body. The epileptic seizures coming on about every two months, and gradually increasing until the child was brought to my office ; she was having from one to five attacks a day, and the mother stated the attacks were becoming more severe. The family physician first treated the child for worms, and giving, in addition, large doses of bromides and iodides, but to no purpose. In my examination of the child I noticed a small scar on the forehead, close to the hair, and a little to right of frontal sinus. Four years ago, when coming from school, a little boy struck her with the corner of a slate, the wound requiring but one stitch. I informed the mother that, in my opinion, the child had a fracture of the inner table of the skull, and that it was pressing on the brain, and producing the epilepsy. On assuring her there was little or no danger from the operation, the child was sent to the Jubilee Hospital ; and in May 15th, 1901, was operated on by me. The entire head was shaved, and rendered as aseptic as possible. A large elliptical incision was made over seat of injury, and a button of bone, the size of a twenty-five cent piece, removed, and placed in hot saline solution. I then discovered the inner table was depressed, and pressing on the brain. I also removed considerable more bone by the Rongeur forceps, replaced my button of bone, and closed up the wound. The child was kept in bed for three weeks, and then allowed home. The wound healed nicely by first intention. Ten days after the operation, the child had a very mild epileptic attack, but since that time, she has remained perfectly free from epileptic attacks, and enjoyed the best of health ; and her mother also informed me the child is much brighter, and is getting along much faster with her studies.



Wet Beri Beri—Tung Wah Hospital.

NOTES ON BERI BERI.

By COLIN A. CAMPBELL, M.D., Surgeon R.M.S. Empress of India, Late of Resident Staff T.G.H.

THE detection of beri beri amongst certain Asiatic steerage passengers coming from Canada, and the failure to recognize it by men of unquestioned ability in the profession, has suggested the publication of the following notes on this at once interesting and most fatal disease.

Beri beri may be defined as a toxæmia, manifesting itself as a peripheral neuritis, and showing a marked tendency to paralysis of the vital centres.

It rages every year among the Chinese coolies, in the neighborhood of Singapore. At Christmas Island last year so many were laid up with it that ships lay waiting for cargo for weeks for lack of laborers to load them ; and that company alone is paying one-third of the cost of an Imperial Commission to investigate the disease. In Hong Kong it appears to be increasing and at the Tung Wah hospital there are special wards for these cases. It is endemic in Japan where it is known as Kahke, and very prevalent in Java. It has broken out on occasion in Brazil, in India,

and in the Dublin Lunatic Asylum. Chinese native doctors have recognized the disease for 1000 years, and at least three medical books, in which it is well described, are in print. Its true nature as a specific peripheral neuritis was first shown by Profs. Sheûbe and Bauz of Tokyo. Dr. McEwen of Vancouver City hospital tells me that 20 cases were admitted last year. Three years ago there was an epidemic among the Japanese fishermen on the Fraser River. Its etiology is still uncertain, although the mass of observers undoubtedly regard it as due to a germ. It has been ascribed to food; especially to rice, and nitrogen starvation; and probability was lent to this view by its marked diminution in the Japanese navy under mixed diet. Other reforms were however introduced at the same time and moreover the disease is very rare in many rice-eating communities. Dr. J. M. Swan of Canton hospital, tells me that he sees few cases. Again its epidemic occurrence amongst the residents of certain houses suggests a local cause. In the old days, in Shanghai municipal jail, there were so many fatal cases, that, if an inmate showed any swelling of the legs, he was promptly set free. It is said that the wily Chinaman used to tie a cord tightly around his legs over night, and many thus escaped until the fraud was discovered. Dampness undoubtedly predisposes to it, and its presence in certain parts of buildings, especially the ground floor, and in ships has been thus explained. I have never had a case among our Chinese stokers, although their quarters are constantly warm and damp. It has been attributed to mould on rice and more recently I heard the managers of Christmas Island attribute it to some such impurity as smut or a species of ergot in cheap rice. The disease is certainly most prevalent where the poorest rice is eaten, among coolies and contract labor. Manson's theory is that the germ is a saprophite living in the soil, a toxin emanating therefrom infecting those near by. Certainly patients improve most rapidly when removed to another locality.

Adult males are the greatest sufferers but no age or sex is exempt. Children born of affected mothers have been healthy in the two cases observed at the Nethersole hospital in Hong Kong. Of 50 girls in the Po Leung, Hong Kong, 10 took beri beri within a month. A previous attack predisposes to a second, as does any lowering disease, such as malaria, syphilis or dysentery.

Manson classifies the cases into (1) wet or dropsical, (2) dry or atrophic, (3) mixed. The following cases which have occurred in the ship may be taken as extreme types of the first two forms.

Case No. 1 was acute dropsical beri beri in a Chinese steerage passenger, about 40 years of age, returning to China. After we had been at

sea a week I was called and found him suffering acutely with dyspnoea. He was sitting up gasping, his face pallid, and bloated with oedema. Pulse 120, small, irregular, and of low tension. Temp. normal. His legs were cedematous and pitted, but not deeply, on pressure. There was little oedema of the scrotum and no ascites. The lungs were resonant throughout, but full of crackling râles. The heart sounds showed equal spacing, a systolic bruit, accentuated pulmonary second sound, and occasional intermissions. The area of dullness was increased. He had noticed oedema for three days and had had shortness of breath for 24 hours. His calf muscles were not tender. Hypodermics of strychnia and digitalis were administered and his removal to hospital ordered. He died on the stretcher.

Postmortem: The heart especially the right side, was distended with dark fluid blood, but the valves were smooth and the muscles looked healthy. The lungs were enlarged and there was fluid in excess in pleuræ and pericardium. The kidneys appeared normal. The urine was free from albumen. The brain and cord were unfortunately not examined.

Case No. II. The following case of typical dry or atrophic beri beri occurred in a Japanese fisherman, aged 19, from Vancouver, who was carried on board on the back of one of his friends. He looked pale and emaciated, his calf muscles, especially, being wasted, and so tender that he cried out if they were pinched, or the leg flexed forcibly. Over the shins and dorsa of the feet the skin was anæsthetic. His appetite was good, his tongue clean, his bowels moved only somewhat sluggishly, and he slept well. His temperature, while normal in the morning, rose to 101° F. in the afternoon; but the pulse rate was 110, soft, and fairly regular, and very rapid on slight exertion. There were hæmic murmurs, wavy impulse and signs of dilatation of the right chambers. The lungs gave evidence of no lesion. The knee jerk was absent and his grasp was very weak.

He was put on full diet and cod liver oil and a mixture containing digitalis and strychnia administered. At the end of four days his temperature rose to 102° and pulse to 120, becoming quite intermittent. The dose of digitalis was doubled and improvement followed. He left after 12 days, with a regular pulse at 100, and brighter, but still paraplegic.

Variations of the above two cases to a bewildering extent are met with. Very common are the cases with more or less swelling of the limbs, numbness over the shins, tenderness of calf muscles, loss of knee jerk, and more or less ankle or wrist drop. The heart's action is disturbed, but digestion, assimilation and excretion are normal. Such are mixed types.

I have seen a man brought in comatose, and with complete ankle

and wrist drop. Such are rare and always die. Dropsical cases are more seldom seen as the œdema may soon pass off and leave the atrophic form. Dr. R. M. Gibson gives fever as a constant early symptom, but Dr. Ho tells me that he often finds the malarial parasite in the blood of such patients. The knee jerk may remain for some time in wet cases, and re-appear as the patient improves.

The mortality Gibson estimates at 15 per cent., but epidemics vary. Of the 10 girls from the Po Leung, 7 were discharged cured within a month and none died. On the other hand, of 138 cases admitted to the Tung Wah in three months last summer, 68 died. Sudden death from syncope is a common and frequently most unlooked for termination. Vomiting is an ominous sign, as in my first experience with the disease; when, with little else evident but vomiting and weakness, a man died with signs of acute dyspnoea in three hours. A history of syphilis is bad. Again, there are patients in the Tung Wah who have been there for one or two years.

By way of treatment good hygienic surroundings are of first importance. Most cases if early removed from the infected district recover quickly. A diet rich in nitrogen is of undoubted value. Beans form the basis in Asiatic hospitals, given with pork and as liberal a diet as can be assimilated. It is well to avoid rice. Early mild cases do well with a simple tonic containing iron and quinine. Should I get another case with alarming dyspnoea I shall follow Dr. Manson's advice and bleed the patient. Oedema, if extreme, usually yields within ten days to full doses of digitalis, m.xv., t.i.d., combined, perhaps, with Spts. Ætheris Nitrosi. It seldom recurs. For the succeeding paralysis and wasting, strychnia internally and massage and faradism locally are indicated.

References—Manson, Tropical Diseases; R. M. Gibson, *Journal of Tropical Medicine*, Mar, 1901.

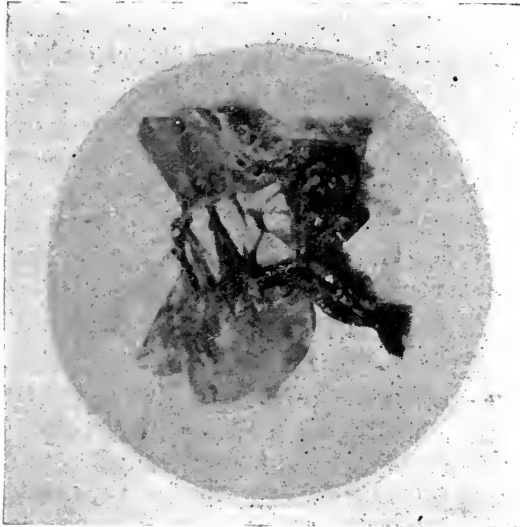
Dec. 6, 1901.

THE CARDIAC COMPLICATIONS OF GONORRHOEA.*

By H. B. ANDERSON, M.D., M.R.C.S., L.R.C.P.,

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THAT there has been in the past a tendency to underestimate the seriousness of gonorrhoeal infections, there can be no doubt. To the ordinary man-about-town an attack of gonorrhoea is considered of no more account than a cold in the head, merely causing temporary discomfort or inconvenience. A fuller knowledge of the subject however is strongly opposed to this view, for when we consider the frequency of gonorrhoea, and the multiplicity of serious manifestations liable to occur during its course or follow in its wake, we are certainly



Valvular Condition in Cardiac Complication.

warranted in asserting that it is one of the most formidable and far-reaching diseases that can affect the human subject. It is important that there should be full appreciation of its gravity by the physician not only that he may not give an unguarded prognosis, but also that through him, the laity may be more fully acquainted with its dangers, and thus take such prophylactic measures as their fears are much more likely to prompt than moral considerations. The intense local inflammatory reaction and its frequent extension *per continuum* to the prostate, epididymis, testicle, vesiculæ seminales, bladder, kidneys, etc., or to the uterus, tubes, and even the peritoneal cavity, are possibilities commonly

* Paper read and specimens presented before the Toronto Pathological, Dec. 1901.

borne in mind. The same may be said of suppurating bubo, periurethral abscess, stricture, etc., with their consequences. Gonorrhoeal rheumatism, also, as its name implies, has long been appreciated as one of the unfortunate complications of the disease and since the discovery of the gonococcus by Neisser, this organism has repeatedly been isolated from the affected joints, fasciae and tendon-sheaths so that its direct etiological relationship to the disease is now generally accepted. One may mention also gonorrhoeal ophthalmia as one of the dangers which is always kept in view. But while serious and far-reaching in their consequence, none of these complications or sequellae are *immediately* fatal, so that if death does result, the time elapsing between the infection and the fatal issue is so long, and the pathological conditions leading up to it so indirectly connected with the primary disease, that the latter often escapes the blame that should be attributed to it. It is therefore probably seldom that the physician thinks of the possibility of a fatal issue in giving a prognosis in an ordinary case of gonorrhoea. Such an unfortunate result, however, is by no means the rarity that it is often considered. The occurrence of *general systemic infection* has attracted much attention during the past few years, so that now cases of true gonorrhoeal septicaemia, with remote local effects in the pleurae, heart, kidneys, spleen, meninges of the brain and cord, eye, nerves, skin, etc., are well recognized as possible complications of the disease. It is especially with the cardiac affections which may result from gonorrhoeal infections that I wish to deal briefly in this paper, giving a synopsis of the literature and reporting a case which recently came under my own observation. Clinicians have known for a long time that heart affections are liable to occur during the course of gonorrhoea, especially in those cases associated with gonorrhoeal arthritis. Thus in 116 cases of gonorrhoeal rheumatism collected by Nolen cardiac complications occurred 16 times. Trousseau (1854) however, denied the possibility of gonorrhoeal endocarditis, though Traube frequently asserts the possibility.

Some four years ago, I reported before the Toronto Clinical Society a case of endocarditis complicating gonorrhoea, in a robust young man, ending in complete recovery. This patient had a high temperature, chills, and developed a distinct mitral systolic murmur during the course of the disease. While quite a number of such cases have been recorded both before and since that time, the exact relation of the gonorrhoea to the cardiac complication was necessarily a matter of doubt until the organism producing the condition could be isolated during life. These complications might be variously explained as co-incidences, intercurrent affections, secondary infections by the pyogenic organisms gaining admission

through the already damaged urethral mucosa, mixed infections of the gonococcus and the other pyogenic organism, or as due to the gonococcus itself carried through the blood stream to the affected part. Thus, while suspected for some time clinically, it is only during the last ten years or less that accurate information based on clinical observation and *post mortem* and bacteriological examinations, has been forthcoming, to definitely prove the association of the gonococcus with these cardiac complications. It is especially since Councilman's paper on Gonorrhoeal Myocarditis, read before the Association of American Physicians in 1893 that the matter has been placed upon a satisfactory basis. In the case reported by him, arthritis developed 10 days after the appearance of the urethral discharge. Indistinct cardiac symptoms appeared in five weeks, and three days later the patient died suddenly. *Post mortem* pericarditis and purulent myocarditis were found, with cloudy swelling of the liver, kidneys, etc. Though no cultures were made the organisms found in the pericardial exudate and myocardial collections of pus, bore all the characteristic features of gonococci, so that the author felt justified in concluding that the gonococcus, carried from the urethra, was directly responsible for the condition in the heart.

In 1895, Thayer and Blumer reported a case of gonorrhoeal septicaemia and malignant endocarditis, in which they isolated the gonococcus from the blood stream by cultures, during life, and also found it *post mortem* in the cardiac vegetations. This is the first case recorded where the gonococcus was obtained from the blood-stream during life, thus definitely settling the possibility of a true *gonorrhoeal septicaemia*. These authors collected some six cases from the literature up to that time wherein the cardiac complications might be fairly attributed to the gonococcus. In 1896, Stengel reported another case of gonorrhoeal endocarditis, and gave tabulated descriptions of 15 well substantiated cases from medical literature. In 1899, Thayer and Lazear reported a second case of gonorrhoeal septicaemia and malignant endocarditis in which they cultivated the gonococcus from the blood stream during life. These authors made an exhaustive critical review of the literature up to that time. Excluding all cases which were open to reasonable doubt, they collected 32 fatal cases of cardiac disease complicating gonorrhoea.

Since that time Harris and Dabney (*Johns Hopkins Bulletin*, March, 1901) have reported a case of gonorrhoeal endocarditis in a patient dying in the puerperium and refer to two other recent suspected cases which have come under their observation.

For the clinical notes of the case which I am about to describe and permission to report it, I am indebted to Dr. J. L. Davison. The history

was taken by Dr. Davison's clinical clerk, Mr. Brefney O'Reilly.

H. Y., male, aged 24, Canadian, entered the Toronto General Hospital, Sept. 27th, 1901, under the care of Dr. Davison. Previous history, unimportant; had always been a robust, healthy man. He was 5 feet 10 in. in height, and weighed 176 pounds when well. Had had the usual diseases of childhood but fully recovered. Family history, unimportant.

On Aug. 30th, 1901, he developed an attack (his first) of gonorrhoea, which ran a mild course, the discharge disappearing (?) in 10 days without treatment. In the latter part of September he complained of pains in the back of the neck, chest, and joints. He felt generally unwell and about the same time chills and fever, followed by profuse sweating, set in. On Sept. 24th, in addition to the symptoms already mentioned, he had a severe attack of vomiting, immediately after which he showed signs of paralysis on the right side of the face, right arm and tongue. On protruding the tongue it pointed to the right. The patient spoke with difficulty. At the time of his entrance to the hospital, Sept. 26th, his temperature and respirations were normal. The pulse rate varied from 80 to 100. On the same evening the temperature rose to 101°. Evidence of the paralysis before mentioned still remained. There was also formication and tingling in the parts but little loss of power. Pupils were equal. Examination of the heart revealed nothing abnormal. The apex-beat was in its proper place and nothing was discovered on auscultation. The temperature ranged from 101° in the evening to 99° in the morning; pulse from 80 to 108; respirations 19 to 24. On Oct. 2nd the temperature rose to 104°, falling again to 98°. Small petechial haemorrhages appeared beneath the skin of the right arm. Chills, followed by profuse sweating, occurred from time to time. No urethral discharge was present at the time he entered the hospital.

Oct. 11th, examination of the blood showed 3,800,000 red corpuscles, 20,000 whites, haemoglobin 70%.

Cultures from the blood were made by the house physicians, Drs. Martin and Sproat. The arm was carefully prepared and the full of a sterilized hypodermic syringe of blood was withdrawn from one of the veins in front of the elbow. This was inoculated into blood serum (Loeffler's), and on nutrient agar and kept in the incubator, but no growth occurred.

Cultures similarly made on a subsequent occasion also gave negative results.

The patient's general condition continued to improve until about Oct. 23rd, when he felt so well that he wanted to get up. He had been treated with pot. iod., quinine and strychnine. Dr. Davison left the city

about Nov. 1st. Up until this time no cardiac murmur had been detected though the patient had been examined frequently. Dr. Fotheringham was left in charge. On Nov. 3rd, on stethoscopic examination he heard a soft mitral systolic murmur. On Nov. 11th the temperature rose to 103°. From Nov. 14th to Nov. 18th, the temperature was subnormal. On Nov. 14th hiccupping developed, which continued at intervals until the time of his death. The mitral murmur became louder and harsher, and on Nov. 18th a distinct musical note was present. This gradually changed to a whistling character, which was attributed to perforation of a valve, and this was confirmed at the post mortem examination. The patient now began to become jaundiced. The jaundice rapidly increased until it became general and intense. Slight delirium also developed.

Urine showed a sp. gr. of 1015, acid, albumen present in fair amount, bile stained, and contained bile-stained granular casts, red blood corpuscles, polymorphonuclear leucocytes, degenerated epithelium, debris, and amorphous urates.

Red blood cells 3,500,000, whites 22,800, apparently mostly polymorphonuclear, haemoglobin 50%. Free blood pigment was also found on examination of fresh blood specimens. Patient began to vomit large quantities of blood, had frequent epistaxis, chills and profuse sweats.

Death occurred from gradual exhaustion on Nov. 21st, 83 days after the appearance of the gonorrhoea, and 61 days after the first definite general symptoms.

Autopsy Nov. 21st two hours *post mortem*. Only a partial examination was permitted and we were not allowed to retain the organs removed. The skin and mucous membranes were deeply jaundiced. Remains of small petechial haemorrhages into the skin were noted.

The general nutrition was good.

The pleural cavities contained a large quantity of bile stained serous fluid. Numerous small subpleural haemorrhages were noted on both sides. Lungs showed hypostatic congestion otherwise normal. The pericardial cavity was filled with bile stained serous fluid. The epicardium presented a roughened granular surface with numerous subpericardial haemorrhages—an intense acute pericarditis. The heart muscle was soft and bile stained the right side of the heart contained excess of dark colored blood but otherwise was normal.

The mitral valve showed a vegetative and ulcerative endocarditis with perforation of the aortic segment, the vegetations on the valve were large firm and polypoid. They extended down onto the *chordae tendinae*, and the wall of the left auricle presented numerous small excrescences upon its surface. The spleen weighed 24 ounces—subacute splenic tumor.

The consistence was fairly firm. Three large anæmic infarctions were present in this organ. Kidneys each weighed $6\frac{1}{2}$ ounces. The capsule was non-adherent, the surface of the organ smooth, cortex thickened vessels congested; organs bile stained. Both kidneys presented a number of infarctions. Some of these were pale and the surface over them depressed below the general contour of the kidneys.

The liver was large, soft, friable and bile stained. No gross evidence of obstruction in the bile passages that would explain the intense jaundice could be made out.

Cultures on blood serum, agar, and into bouillon were made from the pleural and pericardial fluids blood of right ventricle and vegetations on the mitral valve. These cultures were kept at incubation temperature and repeatedly examined but no growth developed upon any of them. Smears from the blood of left ventricle and from the vegetations on the valves were also made at the time of the autopsy.

Both showed the presence of diplococci. The smear from the mitral valve showing myriads of them, both free and within the cells. These diplococci decolorized when treated by Gram's method and presented the morphological characteristics of the gonococcus.

While the objection may be made that the gonococcus was not obtained from the urethral discharge (as I did not see the patient when the discharge was present) and that the organism was not cultivated, yet the fact that the patient's illness with the cardiac symptoms and signs of septicaemia, followed a typical acute attack of what was recognized clinically as gonorrhoea, that no growth of the organism was obtained on ordinary media either before or after death, and that innumerable organisms corresponding in morphology, distribution and staining reactions to the gonococcus were found in smears from the vegetations and blood of the left ventricle, leaves no reasonable doubt that the patient's death was the result of a systemic infection with ulcerative endocarditis and pericarditis of urethral origin and due to the gonococcus.

The marked jaundice was a peculiar feature of this case and I have not seen it mentioned elsewhere. No biliary obstruction could be made out so that it was probably due to disintegration of the blood, resulting from the septicaemic process. This would be suggested also by the presence of subcutaneous haemorrhages and the vomiting of blood. Unfortunately, owing to the vigorous objections of friends, the liver and other organs had to be replaced in the body so that a proper histological examination of the tissues was impossible.

While auscultatory evidence of the cardiac trouble could not be

obtained before Nov. 3rd., the endocarditis probably was present before the occurrence of the paralysis on Sept. 24th and furnished the source of embolism producing that condition. The depressed anaemic infarctions found (*post mortem*) in the spleen and kidneys strengthen this probability.

Gonorrhœal endocarditis can no longer be considered a pathological curiosity to be recognized only in the post mortem room. In placing the condition upon a firm scientific footing the most rigid tests, based on unassailable clinical, bacteriological and pathological evidence, have very properly been exacted before admitting a case to be proven due to this cause. This very rigidity of proof, obviously obtainable only in cases coming to autopsy, has quite probably lead to an over estimation of the seriousness of the prognosis in these infections. Naturally milder cases, going on to recovery, were excluded from among the properly authenticated cases and this tended to the general conclusion that all cases of gonorrhœal endocarditis are fatal. If such clinical evidence considered sufficient for the diagnosis of other diseases were accepted with regard to this it could readily be shown that not infrequently endocarditis, with symptoms of general infection, develops during an attack of gonorrhœa and that the patient subsequently recovers. Gonorrhœal infections of joints, fascial and tendon-sheaths, in which the organisms have been found, are familiar examples of involvement of distant parts through the circulation, wherein recovery takes place. Of course positive proof will be forthcoming when the gonococcus has been isolated from the general circulation and the patient afterwards gets better. It is important clinically therefore to bear in mind the possibility of cardiac affections, with symptoms of general systemic infection occurring during the course of gonorrhœa. The condition is most likely due to infection by the gonococcus itself, though in a given case, without having been able to cultivate the organism from the blood stream, it will be impossible to say definitely that it may not be due to some other of the pyogenic germs.

MILITARY MEDICAL TOPICS AND NEWS.

Conducted by Lt.-Col. Nattress, P.M.O. M.D. No. 2.

DEPARTMENTAL MEDICAL SERVICE.

ONE of the most marked advances in the Canadian Militia during the last few years has been the organization of a Departmental Army



Col. J. L. H. NEILSON,
Director General of Medical Services.

Medical Service. The scheme as originally contemplated comprises the establishment as required of about thirty units. Already fifteen of these units have been organized, recruited and equipped, viz., 8 Bearer Companies and 7 Field Hospitals. Naturally the first to be authorized were located in the chief military and strategic centres. For instance, 3 of these units are in Toronto, 2 in Montreal, 2 in Quebec City, and 1 in each of the following cities: Halifax, Ottawa, Kingston, Hamilton, London, Sarnia, St. John, N.B., and Charlottetown, P.E.I. The above does not include No. 10 Field Hospital which is now serving in South Africa.

Much credit is due to Col. J. L. H. Neilson, Director General of Medical Services, for the rapid springing into active existence of these fifteen units. The officers have been judiciously selected and the companies are already well organized and on the whole fairly well

trained and equipped.

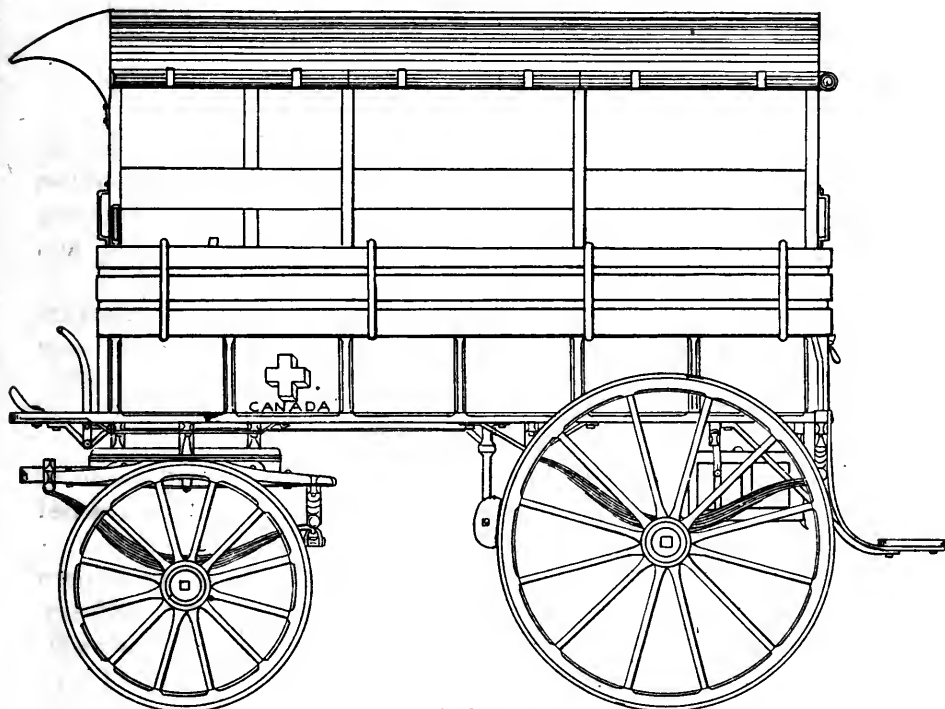
The following is an extract from the Report of the General Officer Commanding for the year ending 31st Dec., 1901 :

"To the Honourable the Minister of Militia and Defence :

MEDICAL SERVICES.

"Canadian Army Medical Staff.

"The establishment of the various ranks of the Canadian Army Medical Staff was completed during the year. All the officers have now



A Canadian Military Ambulance.

qualified for their respective ranks, as required by G. O. 19 of 1909. In addition to these, there is now a list of 22 supernumerary second lieutenants, 13 of whom have already qualified for promotion to the establishment as vacancies occur. Forty-five of the officers of the Canadian Army Medical Staff are doing duty with units of the Medical Corps.

"Nine courses of instruction have been held in garrison or district camps, in which 38 officers of the Staff or Regimental Medical Services have qualified for their commissions.

"Canadian Army Medical Corps.

"The following units of the Canadian Army Medical Corps were

organized, recruited and executed their first training during the drill season of 1901, viz.:

"Bearer Companies.

No. 6 Company,	London, Ont.,	at No. 1 Division Camp.
" 7 "	Hamilton, " "	1 " "
" 8 "	St. John, N.B.,	" 12 Brigade "

"Field Hospitals.

No. 3 Company,	Montreal, Que.,	at No. 5 Division Camp.
" 6 "	Sarnia, Ont.,	" 1 " "
" 7 "	Toronto, "	" 1 " "
" 8 "	Charlottetown, P.E.I.,	" 12 Brigade "

"All the older units, Nos. 1 to 5 inclusive, held their second annual training during the year, and the Director General of Medical Services reports that they all showed increased efficiency, especially commending No. 4 Bearer Company and No. 4 Field Hospital at Niagara Camp, and No. 3 Bearer Company at Three Rivers.

"At the Royal Reviews the medical units appeared to great advantage, and their behaviour and general turn-out are deserving of very high praise.

"Regimental Medical Service.

"The Director General reports that this most important branch of his department, the first line of medical aid in action, has not yet reached the development and efficiency desirable.

"This he attributes on the one hand to a certain lack of modern training and some indifference on the part of regimental medical officers, and on the other hand to want of support and co-operation by commanding officers and captains of companies. Orders will be issued that I hope will remove any existing obstructiveness by these latter officers.

"Nursing Service.

"As provided for in General Order 62 of 1899, para. 23, a Militia Nursing Service has been organized this year, and eight of the senior nurses having seen service in South Africa will form a very reliable nucleus for this branch which I hope may be given an opportunity to further develop in 1902.

"Appointments.

"Your acceptance of the Honorary Colonelcy of the Canadian Army Medical Corps has been a source of much gratification to all ranks and

will contribute in no small degree to stimulate *esprit de corps* and promote zeal and efficiency.

"At the close of the year His Majesty's Government signified its acceptance of a Canadian medical unit for service in South Africa, and the formation of a special service field hospital was at once taken in hand and was proceeding at the end of December.

"I consider that the Canadian Medical Services are in a condition of high and very creditable efficiency."

APPOINTMENTS, PROMOTIONS, ETC.

The following are the recent promotions in the Army Medical Services:—

To be Lieut.-Col.—Major W. Nattress.

To be Major—Capt. J. A. Devine.

To be Captains—Lieutenants C. R. Murray, D. W. McPherson, C. A. Hodgetts, J. A. Roberts, L. Drum, D. E. Mundell, C. F. Wylde, W. H. Delaney, C. N. Laurie, and G. G. Turcott.

To be Lieutenants—Supernumerary Lieutenants H. E. Tremayne, D. McLaughlin, T. D. Walker, S. S. Skinner, G. Royce, A. R. B. Williamson, D. B. Bently, F. O'Neil, G. Carruthers, D. A. Whitton and Philip Weatherbe.

To be Lieutenants (Probationary)—C. A. Peters, M.D.

—*To be 2nd Lieutenants (Supernumerary)*—W. W. Sands, M.D., and H. P. Hill, M.D.

FORTY-THREE YEARS IN THE MILITIA OF CANADA.

SURGEON Lieut.-Col. F. W. Campbell, Montreal, late Surgeon No. 3, Regimental Depot, R.C.R.I., has just received from the Militia Department his 'officers' long service decoration.' Few Canadians have served longer or more enthusiastically in the Canadian Militia than Col. Campbell. He enlisted as a private in No. 2 Co., Montreal Rifles in August, 1855, and when the nine rifle companies in Montreal were in 1857, formed into the First Battalion Volunteer Militia Rifles, Dr. Campbell became hospital Sergeant and served in this capacity until 1860 when he was gazetted assistant Surgeon. He became Surgeon a few months later. The regiment this same year changed its name to the First Prince of Wales Regiment, in honor of the distinguished favor conferred upon it by being reviewed by the Prince of Wales, on the occasion of the visit of H. R. H. to Montreal in 1860. Surg.-Major Campbell remained with this regiment until December, 1883, when he was appointed Surgeon to No. 3 Regiment.

tal Depot, R.C.R.I. and P. M. O. of the St. Johns' Camp. On the 1st December, 1898, Col. Campbell retired having reached the age limit. This veteran officer saw service in the field and was on the frontier in the Fenian Raids of 1866 and 1870.

We congratulate Col. Campbell on the reception of his well merited decoration and trust he may be long spared to enjoy the confidence and respect in which he is held by his fellow officers in Montreal, and by all who know him throughout the Dominion.

KHAKI FOR NURSES.

IN our issue of February, we gave a list of the Nursing Sisters, who sailed for England on the 27th of January, *en route* for South Africa. The Director-General has received a very pleasing communication from them, dated 22nd February, from Madiera. in which it is stated they had an uneventful but very comfortable trip to England on the "Corinthian." Their reception in London was very encouraging, and indeed flattering, being entertained at dinner by Lord Strathcona where they met a number of leading London people especially interested in "aid to the sick and wounded in South Africa."

Their uniform, while perhaps a little sombre in color so far as the fair sex is concerned, is at any rate serviceable and to some extent picturesque. It consists of a khaki dress with Canadian Militia brass buttons, and a light brown felt hat with turned up brim at one side, with scarlet hackle secured by a maple leaf pin or brooch.

ATTACHED FOR TRAINING IN ENGLAND.

Brevet Lt.-Col Fiset, A. M. S., Aldershot.

Surg. Lt. Farwell, 53rd Regt., Aldershot.

Lt. Marlow, No. 4, B. C., Volunteer Ambulance School, London.

SMALL POX ON BOARD THE "VICTORIAN."

It is unfortunate that small pox made its appearance on the Victorian on her way out to Cape Town with the 2nd half of the C. M. R. and No. 10 Canadian Field Hospital on board. So far as we learn several cases of measles first developed, followed by four cases of mild small pox. The Victorian, with all on board except the afflicted ones, was sent on to Durban and was there quarantined.

CURRENT MEDICAL LITERATURE.

Conducted by A. J. MacKENZIE B. A., M. B.

PERITONEAL ADHESIONS.

IN "Die Medicinische Woche," January 20th, and 27th, Dr. E. J. Katunski discusses the question of peritoneal adhesions. He first considers those in which the cause is more or less apparent *e.g.* those due to previous inflammation, those following mechanical injuries as contusions or operative measures which are accompanied by an acute or chronic peritonitis, and thirdly those due to new growths in the abdominal cavity. Here the history may be suggestive of the cause of the symptoms described by the patient but even then the diagnosis is attended with difficulty on account of the variety of ways in which the trouble may manifest itself, simulating organic disease of different kinds, spinal trouble, hysteria etc. until an exploratory laparotomy may be the only means of coming to a decision.

But besides these there are what have been described as the typical peritoneal adhesions, which have no such apparent cause. Among these Gersuny has described one form as frequently occurring, in the form of a band-shaped false membrane in the region of the sigmoid flexure attached at one end to the intestinal wall, at the other to the parietal peritoneum, sometimes being fixed to the mesentery or sometimes bridging it over; it necessarily interferes with the movements of the bowel toward the middle line, and becomes apparent as a tight band on pressing the colon to the right. On account of its position it may very easily escape the notice of the surgeon, and therefore in such cases it is well to examine this region carefully. On the other side we find a similar state of affairs frequently in the form of a peritoneal band between the vermiform appendix near its cæcal end and the parietal peritoneum, attended by swelling of the mucous membrane and thickening of the muscular coat of this organ.

The cause of these bands in this particular region has been the subject of some discussion. Gersuny, in the desire for some theory one would think, and arguing from position, has suggested that the minor hæmorrhage attending the rupture of a Graafian follicle becoming organised gives rise to the connective tissue band; the idea gains support from the fact that nine out of ten of these cases occur in women and in the records of more than fifty cases operated upon, there was no evidence of previous

peritoneal inflammation either from the statement of the patient or from the evidence of the laparotomy. Our writer places no weight on this theory but thinks the cause of these obscure conditions must be sought in the history of intestinal affections of children and that it is possible for a sub-inflammation of the visceral peritoneum, either peri-typhlitic or peri-sigmoidal to occur without its presence being diagnosed in a young child, and without leaving evidence other than the formation of these bands.

The diagnosis of this condition again offers difficulty. The symptoms complained of are generally, constant pain in the lower part of the body on both sides, pain in coitus, obstinate constipation, dysmennorrhœa, inability for and pain on exertion. On palpation one finds increased sensibility, not always pain, on both sides of the lower abdomen and pain on vaginal examination. The writer believes that it is possible to detect the condition of the colon by inducing contraction through massage but the differentiation from organic affections in the neighborhood offers great difficulty. The treatment is necessarily surgical, but where there is uncertainty as to the condition, medical treatment might be given a trial. The possibility of the co existence of this condition with any other abdominal disturbance should always be borne in mind and sought for during laparotomy for any cause.

THE CLINICAL EXPLORATION OF THE AURICULAR APPENDAGES.

IN "Le Progrès Médical," February 8th, 1902, Dr. Ernest Barié, of the Laënnec Hospital, has an article on this subject. He calls attention to the importance of the auricular appendages clinically, and to the fact that examination of them is neglected on account of the difficulty of learning anything with regard to them in the ordinary exploration of the precordium. The position of the left appendage is described as marked out by a trapezoidal space in the left dorsal region corresponding to the sixth and seventh vertebræ, lying between the edge of the spine and the vertebral border of the scapula, bounded above by a line drawn through the spine of the scapula, below by a line through its inferior angle. Here the dullness is found to be an oval, with horizontal diameter about 3cm and vertical about 7. The position of the right appendage is represented by a space to the right of the vertebral column, reaching from the sixth rib to the upper border of the ninth, and three fingers breadth.

Enlargement takes place outward and downward, and it is only in extreme dilatation that the superior segment is augmented. The left

appendage enlarges in many secondary cardiac lesions, both valvular and non-valvular, but it is in mitral stenosis with asystole that the most noticeable dilatation is seen, and here it affords a valuable aid to clinical diagnosis. Enlargement of the right auricular appendage is found in some rather interesting cardiopathies, *e. g.*, mitral stenosis with asystole, in adhesion of the pericardium, in reflex dilatation of the right heart due to gastro-hepatic or febrile disturbances, and it explains those cases of cardiac pulmonary congestion and oedema, which do not follow the mechanical laws of hypo-stasis, but are due to direct pressure on the pulmonary veins by the dilated appendage.

AERIAL CONVECTION OF SMALLPOX.

THE Lancet, February 22nd, has an editorial on this subject, in which attention is called to the fact that we cannot hope to get rid of smallpox by isolation, for the infection can be borne by the air as well as by personal contact, and thus we find another argument in favor of vaccination. The spreading of infection from the hospital ships in the Thames to the hamlet of South Purfleet, which is about three quarters of a mile distant, seems to be well authenticated, occurring, as it did, in the direction of the prevailing winds. The knowledge of this danger will, in all probability, be followed by violent opposition to the erection of smallpox hospitals.

A NEW METHOD OF DEALING WITH THE PERITONEUM IN OPERATING FOR RADICAL CURE OF HERNIA.

In the "British Medical Journal" for March 1st, 1902, W. F. Brook suggests a new method of dealing with the peritoneum in operations for the radical cure of hernia. The peritoneal wall should present no pouching or pouting after operation, as this will inevitably tend to recurrence, and for prevention of this the author has adapted his method of dealing with umbilical hernia. Briefly the procedure is as follows:—A large elliptical piece of skin with long axis in the middle line is dissected off the tumor, the sac is isolated as far as the edges of the ring and opened by a transverse incision, the peritoneum is detached all around well back from the edges of the ring and two flaps fashioned, each of which is a little wider and about 2 inches longer than the diameter of the ring. Through the free edges of the flaps running sutures are now passed, the two ends of the centre suture of the upper flap are threaded on a semi-circular needle which is carried through the ring and thrust from within outward through the whole thickness of the belly wall, emerging at a point in the middle line about $2\frac{1}{2}$ inches below the ring. The same pro-

cedure is adopted with each of the other sutures and they are tied tightly over a piece of lead wire bent to the required shape. The lower flap is treated in the same way except that the needle with the successive sutures, instead of being introduced into the abdominal cavity, is made to penetrate the abdominal wall from the space around the upper segment of the ring. The abdominal wound is then closed in the ordinary way. Of course, as in any operation, precautions must be taken to prevent too great strain upon the site of the repair, but the opposition of two tightly stretched layers of peritoneum overlapping offers, in the writer's opinion, an additional safeguard, and his experience seems to warrant his conclusion.

The same principle is applied to operation on inguinal or femoral hernia, and is essentially the same as that now used by Prof. Kocher of Berne, though differing materially from that described under his name in the text books. The following description applies to the operation on inguinal hernia :—

The sac, having been isolated from the cord, is cut across immediately above the part which it is intended to leave in the scrotum. A running silk suture is passed across it just above the point of section. The two ends of the suture are threaded on an aneurism needle. The latter is introduced into the abdominal cavity through the sac, till it reaches a point 2 inches above and internal to the internal ring. Here a little pressure causes it to present beneath the skin, and a small incision is made down to it through the tissue. The suture ends are now disengaged, the needle withdrawn, and by traction on the suture the sac is inverted and pulled well through, twisted, the sac cut off and the stump fixed by one or two buried sutures. The other structures are dealt with as the operator prefers. This method does away with the necessity of slitting up the external oblique fascia roofing in the canal.

A CASE OF TUBERCULOSIS OF THE SKIN FOLLOWING ACCIDENTAL INOCULATION WITH THE BOVINE TUBERCLE BACILLUS.

THIS case is recorded in the "University of Pennsylvania Bulletin" for February, and is briefly as follows :—On July 27th, Dr G., while performing autopsies on two cows which were the subjects of experimental tuberculosis, wounded the flexor surface of his wrist slightly. No treatment beyond thorough washing was adopted. The wound healed promptly, and nothing more was thought of it until some four weeks later when the scar was noticed to be red, prominent and sensitive. It increased in size till Sept. 10th, when there was a nodule 15 mm. by 8 mm. This was

excised, and two guinea pigs were inoculated subcutaneously, both of which developed generalised tuberculosis, and in the case of one histological examination revealed typical tubercle development.

The notable feature of the case is the rapidity of growth of the nodule, indicating marked virulence of the infecting organism. Such cases do not settle the entire question of the transmissibility of bovine tuberculosis to man, but they prove most conclusively that the bovine germ finds soil and conditions in the tissues of man suitable for its multiplication, and that it produces in animals typical results.

INTESTINAL SAND.

IN the LANCET, March 8th, 1902, Sir Dyce Duckworth, and Dr. A. E. Garrod describe a case where enteric lithiasis persisted for about six months under observation. The patient was a woman *æt.* 33, generally healthy and history unimportant except for the presence of a gouty diathesis in various manifestations in the family. The ailment began with an intractable diarrhoea with flatulence and passage of mucus, and after a time the presence of intestinal sand was discovered in the stools. Ordinary methods were unavailing in the treatment of diarrhoea. Each motion contained about a teaspoonful of the brown gritty substance resembling uric acid deposit, insoluble in liquor potassae but readily soluble in boiling nitric acid. On examination the sigmoid flexure and colon were evidently thickened, there was some pyrexia and pain and tenderness. Treatment was directed toward the tendency to lithiasis with some success, as the patient improved in general health and the diarrhoea was lessened. The case differs from those ordinarily described in the absence of acute attacks of pain with aggravation of the symptoms. The features of most cases are as follows: They occur in women of an average age of 35 years, generally there is a gouty history, there is diarrhoea in some cases, constipation in others, and generally muco-colitis associated with paroxysms of pain resembling renal or biliary colic, with distension and vomiting.

The gritty material passed was made up of a collection of fine particles of varying shapes and either colorless or a warm brown, non-crystalline and in length from .05 to .2 millimeters, consisting of organic and inorganic parts, the former had no cellular elements in structure but was rich in bacteria while the organic part was chiefly made up, of calcium oxide and phosphorus pentoxide with traces of magnesium and iron. The pigmentation was made up of urobilin and another unknown pink coloring agent. A false intestinal sand is frequently found whose

origin is residual elements of fruits such as the pear or of vegetables, but the true form has no organised vegetable basis.

The particular place of origin of this intestinal sand is of interest and the evidence seems to point to the colon as the site of its elaboration. The presence of urobilin and the absence of cholestrin exclude a biliary origin, the inactive colon is a more probable site than the constant motile small intestine, while the clinical evidence of associated pain, tenderness, distension and muco-colitis support this view.

CONGENITAL COCCYGEAL MULTIPLE CYSTS AND FIBROUS TUMOR.

IN "La Revue Médicale," of January 22nd, Dr. T. M. Brennan, of Montreal, and Dr. Choquette, of St. Hilaire, describe the removal of a coccygeal tumor from an infant of three months. It was situated at the site of the coccyx, being about the size of a small hen's egg, *e.g.* it was pedunculated and quite mobile, hard and without fluctuation, and was surmounted by a small polypus which was of softer consistency than the rest of the tumor. On rectal examination several small, rounded, smooth, elastic tumors were found beneath the mucous coat, but the bony coccyx was apparently absent. On operation the tumor was found to consist of dense fibrous tissue, and the cysts contained a colorless gelatinous fluid, without a trace of fat and nothing to suggest a dermoid origin. Laterally two plaques of bone were found, teratological representatives of the coccyx.

The histological examination gave no clue to the origin of the tumors, and there seemed nothing to support the reference to any of the ordinary sources *e. g.* cartilage, bone, mucous membrane, degeneration, nervous or vascular structures, etc.

MALIGNANT DISEASE OF THE BREAST.

THE LANCET for March 8th has an article by Mr. A. M. Shield, on this condition with results of 60 cases operated upon. Of these 40 are tabulated, the others being of too recent occurrence to admit of a full report but of these two have died, one from a previous dissemination while of the 40, 8 are successful after 5 years, 4 for 4 years, 7 for 3 years and 11 for 2 years. Without discussing the cases where the result has been unsatisfactory, we may give the following conclusions which the writer believes the record of these cases supports him in, (1) That the risk of removing cancer of the mammæ by extensive operation is small and should not amount to more than 1 or 2 per cent. (2) That early and

free removal gives prospect of years of freedom and in a good percentage of cases of good health and enjoyment of life. (3) That the cases that do badly are (1) soft, rapidly growing cancer in young and vascular women, (2) cases of long continuance before operation where the skin and cervical glands are widely infected. (4) That in certain cases visceral cancers and cancer in the liver co-exist with or rapidly follow operation, and the explanation of these is uncertain. (5) That the practice of early exploration by incision of small nodules and indurations in the breast is of the first importance, for diagnosis. (6) No one should undertake an operation for mammary cancer unless he is capable and has had sufficient experience to remove thoroughly all lymphoid tissue from the axilla, as the neglect of this is a common cause of failure. (7) The prognosis of mammary cancer is still dubious and sometimes instances arise that falsify ordinary experience, but such do no invalidate the rule "Operate early, Operate extensively."

A CASE OF DIAPHRAGMATIC HERNIA.

THE Australasian Medical Gazette of January 20th, reports a case of diaphragmatic hernia of more than ordinary interest, by reason of its extent, long duration, and the fact that it was diagnosed, and operation attempted, though unsuccessfully, for its relief. Drs Clubbs and Gillies, of the Prince Alfred Hospital, Sydney, report the case :

The patient was a healthy man, aet. 70, giving a history of a fall twenty years before resulting in the fracture of three ribs on the left side and other injuries, but with complete recovery. Four days before admission to the hospital, he was seized with a sudden severe pain on the left side of the abdomen, this persisted and vomiting ensued, and he noticed a swelling of the stomach. The vomiting became faecal, the bowels were inactive but acted after cal. gr. 5 and an enema had been given. Briefly the physical signs were as follows ; the chest was barrel-shaped, and movement diminished on the left side, hyper-resonance over the left front of the chest with a well-marked metallic tinkling, and this condition was traceable without interruption down to the distended abdomen, cardiac dullness transferred to the right side of the sternum, and an indistinct impulse seen there, *bruit d'airain* heard all over the left side below the level of the third rib, succussion splash heard at the base behind, respirations were only slightly embarrassed, pulse was 80, and weak and irregular, and temperature 99.

The patient evidently had an intestinal obstruction, and from the continuity of the signs over chest and abdomen a diagnosis of diaphragmatic hernia was made and operation for its relief was undertaken.

An incision was made from the ensiform to the umbilicus, dilated intestine presented, and on inserting the hand a fissure was found in the diaphragm, and in the thoracic cavity a much dilated stomach, and intestines and stomach were found firmly fixed, a trocar was passed through the side of the chest, the viscera drained, and an attempt made to reduce the hernia but it was impossible and as the condition of the patient forbade the operation by removal of parts of the ribs and the attempt at reduction from the thorax, the wound was closed with the trocar in place. The patient died fourteen hours later.

On post-mortem examination, the greater part of the left side of the chest was found to be occupied by the dilated stomach, which was firmly fixed in place by adhesions; behind the stomach lay a foot or more of transverse colon, and behind this the spleen was firmly adherent to the pleura, and from it a fibrous band passed to the margin of the opening, and behind this a knuckle of small intestine had passed and become strangulated, and to this condition, and not to the hernia itself, death was due. About an inch of the duodenum was found in the thorax and about three inches of the tail of the pancreas. No trace of old fracture of the ribs was found.

The hernia was evidently of long standing, and may possibly have dated from the time of the original injury; during this time it gave rise to no symptoms and on no way interfered with the man pursuing an active life. Had the existence of the strangulation of the small intestine described been made out it might have been relieved but for the reduction of such hernias the route through the chest wall, by the re-section of the ribs is evidently the best.

THE HEALTH OF THE PEOPLE.

THE Practitioner for March has an excellent article by James Cantle M.B., on the health of the people, in which the writer examines the conditions surrounding life in large cities, with the consequences which follow, and searches for a solution of the problem of the race development, which is presenting itself to all thinkers on social subjects. In Canada we are not confronted with this difficulty to the same extent, but even here we have to consider the relation of the urban to the rural population. The writer makes the statement that in London there are no Londoners of the third generation, that the great cities would be rapidly depopulated were it not for the influx from the country, and that the country in England has had its population reduced beyond its necessities. Town life may suit intellectual activity, physique does not always spell ability, but it does measure procreative power and we must improve the physical conditions if we are to maintain our birth-rate.

The reasons for the detrimental effect of town life are not far to seek—the lack of fresh air, the disinclination to exercise which must of necessity be taken in rooms or be subject to the inclemencies of the weather at some seasons, and the difficulty of providing suitable occupation for the spare time of children especially between the ages of 12 and 17. This age is the most difficult to deal with, for the children are too young to go to work, too old for the primary school, and are at the time when their physical development is most important. The writer believes that large covered play-grounds are a necessity and will be seen during the next decade, but suggests for boys of this age a course of compulsory military service. He says:—"The direct physical benefit obtainable is calculated to increase the work-producing power of a nation. The discipline inculcated during these critical periods of life is potential of great good, the habits of cleanliness taught and the meaning of hygiene and sanitation insisted upon, elementary though they would necessarily be, would affect the man's future life, it may be insensibly and to but a slight degree; but a minimum of education in these matters, touching as it would all classes, means a colossal total toward betterment."

The demand on the capacity for production of the English isles is not confined to the necessities of the population of the great cities, but as a colonising power its brain and brawn are needed beyond the seas. The great health problems then would seem to resolve themselves into two, namely the maintenance of the health of the town-dwellers, and the increase in the numbers of those dwelling in the rural districts. The writer believes the solution of the former to be found in conscription in the way described, for the latter some means of improving the condition of the rural population must be found which will be effective in stopping the migration to the cities.

"CICATRICES VICIEUSES."

IN *The Gazette des Hopitaux*, March 1st and 8th, Mr. Charles Vinnay discusses under this heading such cicatrices as, either in their process of formation or afterward, assume characters harmful or unsightly. All wounds which suppurate, and therefore heal by second intention, may give rise to this form of scar, but they most commonly follow burns.

These conditions may be divided into two classes, viz.: deformed scars and deformities resulting from scars. Of the first class are those of a color different from the surrounding skin, those showing an elevation above the level of the surrounding tissues, either due to exuberant granulation or to the formation of false cheloids, those showing a depression, here those resulting from long continued suppuration are the most common, and those noticeable on account of their extent. Of the second class are bands, ad-

hesions, deformities of orifices, and the narrowing of organic ducts, etc. The bands are found in the folds of the body, palms, neck, etc.; the symphises unite the members to the trunk or to one another. The orifices most frequently deformed are those of the face, and the ducts the vagina, rectum, the urethra or the oesophagus.

The gross and minute anatomy of scars present a few characteristics of interest. They are composed of two layers, one epidermal, thin, generally white, without secretion or hair, the other the tissue "*inodulaire*," the dense resistant dermal layer. The tissue contains a few capillaries and venules, but no nerve endings have been made out, the nerves of the surrounding tissues ending in ganglioform enlargements at its margins, yet it is not wholly without sensitivity. It is by no means a moribund tissue, as it possesses the possibility of growth and other evidences of vitality. The presence of lymphatics is denied by some authorities, and the possession of elasticity is also a disputed point, some holding that it is a property of the formative and not of the resultant tissue.

The treatment of these cicatrices may be considered under two headings, prophylactic and curative. In order to prevent their formation one should, 1st—Attend closely to the position of the members in the neighborhood of large cicatrising wounds; 2nd—Restrain the production of cicatricial tissue by the use of grafts. The curative treatment may be divided as open operative treatment and other means. Among the latter we may mention the treatment of discoloration by tattooing with tannin, followed by injection of nitrate of silver, used successfully by Variot. Elevated cicatrices may be treated by compression, scarification or extirpation. Depressed scars are treated by subcutaneous liberation as in tenotomy, followed by the injection of liquid vaseline. The treatment of scars described as uniting or obliterating offers the greatest difficulty. Applications of various medications have been tried but the author classes them all as useless. Mechanical means have been more useful in the form of douches, warm bathing, the so-called Swedish gymnastic method or method of Neumann, consisting in a form of massage, or in extension and the gradual application of force. With regard to the operative form of treatment we may quote Depuytren's rules, viz.: 1st—Never operate for some months or even years after the formation of the scar as Nature keeps up its curative function for some time after it is apparent. 2nd—Never operate without being certain of obtaining a scar smaller or less deformed than that removed. 3rd—Only operate when it is possible to return to the parts their original form or function in some degree. The methods of operative interference may be classed as Incision, Excision, the use of grafts and autoplasty, but space forbids anything more than the mention of these various means of repair.

PROVINCE OF QUEBEC NEWS.

Conducted by MALCOLM MACKAY, B.A., M.D.

AS a result of the recent epidemic of smallpox a vast quantity of literature on the subject has appeared in the medical journals and daily papers of America and Europe. The mild character of the symptoms found in the majority of the cases has originated the idea which is rife in certain districts that there is no true smallpox found to day in Canada. Unfortunately this view has been prevalent in the Province of Quebec and in order to prove to the general public that it is utterly false the *Bulletin Sanitaire* has published a number of excellent lithographs of typical cases of smallpox reproduced from photographs taken in the Montreal Civic Hospital in January, 1902.

In the same number of the *Bulletin Sanitaire* is an epitome of some very convincing statistics showing the results of vaccination in Europe. The following report by Dr. Laberge, of the Montreal Civic Hospital, lends additional force to the arguments submitted in the leading article of the Bulletin :

"From May 1901, to February 1902, there were received 225 patients. Of this number six died, two being cases of hæmorrhagic smallpox (*picote noire*.) Of the 225 patients not one had a good vaccination mark ; most of them had never been vaccinated, while only eleven had a visible mark, which had been made 20 to 25 years before. The hospital staff consists of thirty individuals, all were vaccinated before entering, and none have contracted the disease though living in the midst of infection for more than two months."

The sixth regular meeting of the Montreal Medico-Chirurgical Society for session 1902 was held on March 21st. Sir William Hingston was in the chair. Dr. McConnell showed a living case of muscular dystrophy and discussed the condition. Among the more interesting features of the meeting was a case of lupus treated with the x rays. This was demonstrated by Dr. Girdwood, the case provoking a lively discussion by the members.

The seventh meeting of the same society was held on April 4th, the president, Dr. Armstrong being in the chair. Dr. Von Eberts showed well marked case of morbus coxæ with some very clear skiagraphs showing the relations of the neck of the femur to the pelvis.

Dr. H. G. Nicholls followed with a most interesting paper. He presented a specimen of primary intestinal tuberculosis, the original lesion having been followed by a general miliary tuberculosis including meningitis, there being in addition a syphilitic ulcer on the leg. He proved conclusively that the primary lesion was in the intestine and remarked upon the rarity of the condition, referring to the importance which Koch attached to this fact in his recent speech at the English Congress on Tuberculosis. Dr. James Stewart pointed out that the case was of particular clinical interest on account of the presence of two chronic conditions, tuberculosis and syphilis. The patient came under his care in a semi-comatose condition, showing symptoms of meningitis. The definite syphilitic history together with the enlarged glands and the ulcer on the leg pointed strongly to syphilitic meningitis, whereas the autopsy demonstrated that it was tuberculous.

Dr. Byers then read a paper on albuminuric retinitis in pregnancy. Some discussion followed in the consensus of opinion of appeared to be that when such a condition was present it was wise to cut short the pregnancy rather than let it go on, subjecting the patient to the risk of sustaining permanent damage to her eyesight.

Dr. Lapthorne Smith gave a short resumé of a paper entitled, "A needed change in treatment of cancer of the uterus." He began by quoting a few statistics showing that operations on cases of cancer of the os uteri, where a positive diagnosis had been made were attended by very little success; hence he argued something must be done before this stage of the disease has been reached. He stated that the majority of cancers of the os started from tears and that if we do away with the tear we prevent the majority of cancer. He thought therefore that every case of severe laceration of the os uteri *i. e.* one in which the lining epithelium of the cervix projects into the vagina, should have radical treatment at once; if child bearing was to continue amputate the cervix, if not, then arrange the operation according to the condition present, but in any case repair the laceration. He also advocated removal of the uterus in every case of blood loss after the menopause.

After some discussion which naturally followed this paper the meeting adjourned.

The annual report of the cases of typhoid fever treated in the Royal Victoria Hospital Montreal has just been completed. There were 160 cases admitted during the year 1901, the number of deaths was 9, making the percentage of mortality 5.6 for the year.

The following table gives the number of cases admitted, the number of deaths, and the percentage of mortality for the past eight years.

Year.	No. of Cases.	Deaths.	Percent. Mortality.
1894.....	84	3	3.5
1895.....	84	4	4.7
1896.....	72	0	0.0
1897.....	75	7	9.3
1898.....	93	4	4.3
1899.....	86	7	8.1
1900.....	126	9	7.1
1901.....	160	9	5.6
Total.....	780	43	5.5

The committee of the Montreal medical profession which has been elected to make the necessary arrangements for the complimentary dinner to be given at the Place Viger Hotel, on April 29th, to Sir William Hingston, Dr. D. C. McCallum and Dr. Rottot on their fiftieth anniversary of their graduation, consists of Dr. F. W. Campbell, chairman; Dr. Roddick M.P., Dr. Lachapelle, Dr. Ruttan, Dr. Guerin, Dr. Marsolais, Dr. Penigo, Dr. Foucher, Dr. Buller, Dr. Dube, Dr. Kennedy, Dr. Laphorn Smith, Dr. Boulet, Dr. Wilson, Dr. Carmichael, Dr. Ross, and Dr. Benoit. This committee embracing as it does all medical schools, creeds, and languages found in the profession in Montreal will undoubtedly ensure the success of the dinner given in honour of the senior physicians of the city

The Western General Hospital of Montreal has entered upon the present year with very bright prospects.

The hospital was originally erected by Major Mills and completed in 1880. Shortly after this date it was leased by the Medical Faculty of Bishops College, who took possession and opened maternity and gynaecological departments. For about ten years the character of the hospital remained unaltered, but in 1894 the college moved their maternity hospital to the building which they now occupy, thus enabling the Western

Hospital Corporation to open the original wing as a general hospital. Quiet but energetic work has gradually placed the hospital on a more secure footing and the last annual meeting of the governors was the most successful in its history. The financial condition was considered most satisfactory, the receipts and donations per month averaging almost double those of the preceding year. As already announced in *THE CANADA LANCET*, Mr. G. B. Burland offered \$200,000 towards the erection of a new building, while four other gentlemen offered to join a party of twenty to wipe out the debt of the hospital.

FORTHCOMING MEETINGS.

The Canadian Association for the prevention of Tuberculosis will meet in Ottawa, on April 17th, under the presidency of Sir James Grant.

The Maritime Medical Association will hold its twelfth annual meeting in Charlottetown on Wednesday and Thursday, July 9th and 10th. Dr. F. P. Taylor, of Charlottetown, is president, and Dr. Geo. M. Campbell, of Halifax, is honorary secretary.

The annual meeting of the Canadian Medical Association will be held in Montreal on the 16th, 17th and 18th days of September, 1902. The president is Dr. Francis J. Shepherd, 152 Mansfield St, Montreal, the local secretary, Dr. C. F. Martin, 33 Durocher St, Montreal, and the general secretary, Dr. George Elliott, 129 John St, Toronto. Dr. William Osler, Professor of Medicine in Johns Hopkins University, will deliver an address in Medicine and Dr. John Stewart, Halifax, Nova Scotia, the address in Surgery. Arrangements are already well in hand for a very large meeting.

The Medical Society of Nova Scotia will meet in New Glasgow on July 2nd and 3rd. The following is the programme so far as arranged: Address in Medicine—Prof. F. G. Finlay, Montreal; address in Surgery—Prof. G. E. Armstrong, Montreal; discussion on Vaccination—Drs. A. P. Reid, A. Halliday and M. Chisholm; Insomnia with Some Suggestions for Treatment—H. H. MacKay, M.D., New Glasgow; Examination of Water, Chemical and Bacteriological—Andrew Halliday, M.B., Halifax. Case reports (1) Supra-pubic Cystotomy, (2) Abscess of the Lung—E. D. Farrell, M. D., Halifax; the Treatment of Puerperal Sepsis—Ernest Kendall, M. D., Sydney; papers have also been promised by Drs. L. H. Morse, of Digby, and G. H. Cox, of New Glasgow.

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EDITORIAL.

OUR EARLY HISTORY.

IN order to collect material upon which the future historian of the medical profession may draw, we have decided to ask for contributions from the older members of the profession. These will be published under the title "Pioneer Experiences." Every medical man who has had experience in new districts, villages, or in new rural communities can give many valuable facts. These will include: the difficulties of travelling, the poverty of the community, the various duties performed by medical men, the defects in the supply of medicine and nurses, the surgical difficulties, the names of the early doctors, characteristic stories of doctors or patients, and all other facts and circumstances which will throw light upon the self-sacrificing work performed by the fathers of Canadian medicine.

The letters to the editor embodying this information should not be more than 1500 words in length. Copies of old diaries, letters, clippings, historical descriptions and old photos of men, places or articles will be a pleasant addition.

If the profession will help us in this matter, these letters will be collected during the next six months, carefully edited and grouped. The publication of them will be begun next autumn.

THE CANADA LANCET trusts that the profession will give its generous assistance in securing the information which, it is but right, should find a prominent lodging-place in the files of the oldest medical journal in Canada.

HOW SHALL WE DISPOSE OF OUR DEAD?

THE rapid extension of the area of our cities and the constant increase in the density of population brings prominently forward the question of the disposal of the dead. It is undeniable that the present method, suitable as it is for rural districts and in places thinly inhabited, is, in its application to large cities, fraught with dangers and difficulties of no little moment. The sentimental associations of green church-yard are

sacred to many and worthy of respect from all, but they are not regarded by the ruthless promoter or the soulless corporation when it comes to a question of a route for a railway or a site for a manufactory; so that in the vicinity of growing towns cemeteries are being constantly moved back and not desecration but complete destruction awaits them; and we can look forward to no quiet, undisturbed sleep for our dead. Then, too, there is no point of view to be regarded as belonging to the deceased person, the safety, the welfare, even the convenience of the living are the potent factors in the consideration of the question, and the danger of contamination of air and water from the proximity of a decaying mass of animal matter is not imaginary.

The solution of the difficulty seems to lie in the adoption of cremation which provides a safe, hygienic and at the same time æsthetically unobjectionable mode of disposal, and, too, of preserving the remains of the deceased. It is a method hallowed by age and supported by reason, and when one becomes accustomed to the idea it should bear no unpleasant or sacrilegious suggestion. It has already been adopted in all the principal cities of the civilised world and its advocates and adherents are constantly increasing in number.

REGULATION OF QUACK ADVERTISING.

AFTER having taken measures to protect the public from the Christian science traffic, the German government is stated to be giving its attention to the regulation of the advertising of patent medicines. The tremendous increase in the sale of these remedies during recent years has led the authorities to consider the matter one of national importance. It seems remarkable that governments in different countries should have so long allowed the most heartless, mercenary and despicable class of swindlers a perfectly free hand to openly traffic in human ills and suffering. There has been no limit beyond which they have not been allowed to go in the publication of transparent falsehoods and claims so absurd and wilfully misleading that self-respecting physicians usually consider them unworthy of serious consideration or denial. These advertisements are paid for and published in both the secular and religious press, without regard to their fraudulent character or the dishonourable purposes they are intended to serve. The high standing and respectability of the journals in which they appear are often taken by the unthinking public as a kind of endorsement of the reliability of the nostrums advertised.

If individuals or companies receive money for remedies warranted to cure conditions that are known to be *incurable*, surely they are obtain-

ing such money under false pretences and should be amenable to the laws governing fraud. Their offences, however, are so commonplace and have been tolerated so long that even the most glaring of them are passed over without notice or comment. Sure cures for cancer may be seen advertised in almost any paper one picks up, a claim which in the present light of medical science, could be and is only made by a knave or a fool. In either case, the undiscerning multitude should have protection under our laws from such obvious frauds. Every reputable physician knows, and every intelligent layman should know, that the person who claims to cure all cases of tuberculosis, Bright's disease, asthma &c., is attempting to deceive, with a view to extorting money from the unhappy victims of real or fancied diseases. Why should such open dishonesty be allowed to go on without question or punishment?

Those in authority adopt vigorous measures to suppress the common abortionist and yet we may daily see advertised in the public press, unfailing remedies for "suppressed menstruation," "monthly irregularities," and other thinly veiled allusions to what are commonly interpreted as means of producing abortion. These advertisements suggest criminal acts. What an educative influence such suggestion of crime must have on the community! When some unfortunate individual finds that the legally-advertised means of relieving her trouble to be a failure, is it a matter for surprise that she should conclude that it is no worse to try other methods and so procures the surer services of the "operative abortionist." Morally she is justified as much in resorting to one method as to the other.

Nostrums containing morphine, cocaine and other dangerous drugs, capable of ruining the health or of laying the foundation for drug habits are advertised and sold, and administered to helpless children as well as to adults, who are quite unaware of the dangers to which they are exposed. No one can estimate the harm done in this way and yet there is no attempt by the authorities to give the public any protection.

It is unnecessary to multiply instances of worthless, or what is worse, positively dangerous remedies that are advertised as certain cures for all sorts of ills.

The medical profession has not done its duty in permitting this condition of affairs to continue so long without protest or warning. Public opinion must be educated and pressure must be brought to bear in proper quarters in order to stem an ever growing evil. No assistance, but instead the strongest opposition, may be expected from the public press which is probably not aware of the amount of harm that is being done, and has not yet attained to that degree of altruism where mercenary ends will

be sacrificed for the public good. The German Government, however, has set an example that will form a precedent and so make the matter more readily dealt with in other countries.

The patent medicine interests not only have the backing of the public press but they are possessed with great financial and personal influence in high quarters that will be exercised to the fullest extent to prevent any legislation that will interfere with their having a free hand in so fruitful a field for money-getting.

POST-GRADUATE WORK IN TORONTO.

IN a number of letters recently appearing in both the lay and medical journals of Toronto, Dr. Lucius Oille, of St. Catharines, expresses himself strongly in reference to the lack of provision for post-graduate and research work in medicine at this centre. He refers to the large number of graduates anxious for special work or further experience who are forced to go to institutions in either the United States or Europe in quest of advantages which they cannot obtain at home. This means a very considerable financial loss to Ontario and certainly tends to lower the prestige of our own institutions in the esteem of those who have been unable to have their wants supplied by them. This very class is the most influential and progressive among our graduates. Taken altogether we believe Dr. Oille's criticisms are just and are deserving of the most serious consideration.

The letters are written in a friendly spirit and with no desire to do any injustice to Toronto as a medical centre, but rather with a view to awakening those in authority to the necessity of making provision for work that has heretofore been too much neglected. Some, in reply to Dr. Oille have claimed that such facilities are already provided, but this statement cannot be taken seriously. It is better for us to admit frankly that no satisfactory facilities for postgraduate medical study exist here at present. Others have claimed that we have not a sufficient amount of material to provide for both undergraduate and post-graduate instruction. Here again we must agree with Dr. Oille as against those who have tried to reply to his criticisms. The various hospitals, homes, asylums etc., provide a super-abundance of material if it were properly utilized. These hospitals, homes, asylums, dispensaries, etc., with material available for clinical teaching in the city of Toronto, contain over 2,000 patients. Surely the field is an ample one. The New York Polyclinic Hospital, where many Canadians are attracted, has less than 100 beds, and the N.Y. Post-graduate hospital less than 200

beds. There is no city on the American continent so favorably situated as Toronto for a post graduate school. The summers are sufficiently cool and pleasant for work to be carried on, if desired, during the whole of that season. Living is comparatively inexpensive—not more than half what it would cost in most other centres for post-graduate work. There is abundance of clinical material available. The only thing necessary is that these advantages should be appropriated and turned to proper account.

EDITORIAL NOTES.

The St. John, N. B., Medical Society meets once a week. Dr. W. L. Ellis is president.

Dr. John Stewart of Halifax has been appointed secretary of the Medical Society of Nova Scotia in succession to the late Dr. W. S. Muir.

The Murray Memorial Ward of St. John's General Public Hospital was opened on the 1st of March with appropriate ceremonies. The room contains five beds.

McGill University's seventh annual course of instruction for general practitioners will commence April 28th and close June 7th. Full information concerning this course will be found in our announcement pages, or may be secured from Dr. Ruttan, Registrar, Montreal.

Regina's Hospital is making steady progress. The officers for the current year are: President, Dr. Goggin; vice-president, G. W. Brown treasurer, G. Michaelis; secretary, James Balfour. Drs. Low, Martin, Graham, Miller and Field are members of the medical staff, and Dr. G. Pearson Bell, consulting physician.

The Nova Scotia Branch of the British Medical Association met in Halifax recently. Dr. Hattie, superintendent of the Nova Scotia Hospital, read an interesting paper on Epilepsy. Drs. Murphy, C. D. Murray, Sinclair, Mader, M. A. B. Smith, Mathers and Trenaman took part in the discussion. Dr. Walsh, president, occupied the chair.

Under instructions from Archbishop Bruchesi, of Montreal, the different parish priests at High Mass, recently, stated that unless Roman Catholics were granted separate civic hospitals they would be forbidden to enter neutral ones and that if necessary the church would build one

at their own expense for the accommodation of their adherents. The reasons for this decision were not stated.

There is one incident in the life of the late Dr. Bucke of London which is not generally known. When a young man, he was caught by a storm in the Rocky mountains and was lost in the snow. When found his feet were frozen so that circulation had ceased. His companions amputated the feet—anaesthetics being a thousand miles away. For six weeks the stricken man lay in that mountain cabin and passed through a time of regeneration—coming out a man of deep earnestness and courageous determination.

A story is told of one of Dr. Bucke's runaway patients

This one was a recent arrival and supposed to be dangerous. Therefore a search was made and telegrams sent to his friends. About three months afterward one of the employees of the asylum accidentally found the man working for a farmer ten miles away. The man had hired out and was doing good service, living in the farmer's household. The employer said nothing, but went home fast to report to Dr. Bucke. "Leave him alone" said the Dr. "He is getting better treatment than we can give him here." The man worked a year for the farmer, saved a hundred dollars, bought a new outfit of clothes and disappeared.

There has been a new out-break of the bubonic plague at Sydney, Australia. The city theatres have been closed and the city hotels quarantined. The general conclusion seems to be that, the infection was not wholly cleaned out a year ago, in spite of all the precautions taken. The rats are again the objects of pursuit. Brisbane also has some cases, and the Central Board of Health at Adelaide has proclaimed New South Wales, Queensland and Victoria as plague infected. In New South Wales all letters are disinfected by spraying with formalin.

About the 7th of last month a case of small-pox was discovered at the University of Toronto in the person of a fourth year natural science student. He was removed to the Isolation Hospital, where as the case was a very mild one he soon recovered. Precautions were taken to prevent the possible spread of the infection by disinfecting the laboratories where he had been working, and the University required all attending lectures to be vaccinated. This was carried out by the junior members of the medical faculty with a commendable thoroughness and despatch. Fortunately there was no further development and the mild scare was soon lost in the examination excitement.

Elbert Hubbard, editor of the *Philistine*, tells of a recent visit to Dowie of Chicago. "I went in with the throng and was making my way down to a seat when a big man, who looked like the engineer of a switch engine, stopped me, and blocking the way asked very bluntly but not unkindly: 'Do you believe on the Lord Jesus Christ?' I hesitated. 'Ye-e-s,' I gasped. 'Thank God! And you have no use for doctors?' 'No' I said with emphasis that made up for my former hesitancy. 'Right this way' said my friend and he gave me a good seat. 'You see we give the Believers the best seats and the others can take what they can get' * * * * Dowie is working a tremendous Scheme."

The Winnipeg General Hospital has got past the day of deficits; at the annual meeting held on March 7th it was announced that there was a surplus, owing to the magnanimity of individual citizens, the civic grant of \$10,000 a year and the provincial grant of 37½ cents per patient per day. The Dominion grant has decreased from \$13,000 to \$3,000. This item is due to the treatment of immigrants. The board of directors were elected by ballot, being Hon. William Hespeler, J. S. Aikins, F. W. Thompson, Dr. Chown, and Mr. Justice Bain. Immediately after the meeting adjourned the board of directors held a meeting, and elected the following officers: President, Hon. William Hespeler; vice-president, E. L. Drewry; honorary secretary-treasurer, Mr. Justice Bain.

The University of Toronto has determined to establish a combined science and medical course by which a student may, after receiving his B.A. degree complete the course for M.B. in two years. The details will be published in the annual calendar but so far as we have learned Anatomy has been made optional in the third and fourth year, thus enabling the student to complete the purely scientific part of his medical course in connection with his arts work. The advantages of a broad educational basis for the professional man will be acknowledged by all, but the necessity of post-graduate work has deterred many from undertaking a course of such length, and the practical working of this arrangement will be watched with interest. The change is not so radical as might appear, as it has always been possible to complete both courses in seven years.

"The general Council of Medical Education and Registration of the United Kingdom" as it is described by the Medical acts which constituted it, has recently been at variance with the colleges with regard to the extent of its jurisdiction over the details of medical education, which differ very materially among the different teaching institutions but which conform, it is claimed, to the general standard required. A committee of

the General Medical Council reported to a special meeting last month that the courses of study prescribed by four of the licensing bodies did not afford a sufficient guarantee that the persons pursuing them possessed the requisite knowledge and skill required for the practice of their profession. This rather sweeping report was withdrawn, and it was determined to inspect these particular examinations and to ask for further information before taking action. It is in the power of the Council to report to the Privy Council, but at present it seems as if the way were being paved for an amicable arrangement of the difficulty.

The profession in Australia is at present exercised over the project for the establishment of a Medical Association which should include in its scope all the different states and represent in its own way the union which political federation has given to that great land. At present there are six branches of the British Medical Association in as many provinces, but with no general connection except such as is derived from a tri-ennial inter-state congress; but this state of affairs has seemed to many unsatisfactory and a strong movement is on foot for an amalgamation in an Australian Medical Association, with annual meetings and general jurisdiction, still remaining if thought desirable a branch of the British Medical. A natural conservatism opposes such a change and argues a loss of prestige and the difficulties which distance imposes on general meetings in Australia. To a Canadian it would seem that the direct advantages of the present connection must be slight, while the growth of a national sentiment and the benefit of national meetings such as we have in this country, where the distances are also very great, would more than counterbalance any loss.

A bill has been introduced into the Legislature of the State of New York to provide for compulsory vaccination. The public health authorities of the state and city of New York are in opposition to it or any compulsory vaccination law, on the ground that it is unnecessary and harmful, tending to destroy public confidence and sympathy in the work of the Health department. We believe the stand taken will commend itself to the common sense of the medical profession. There has been too much compulsion in the matter of vaccination. There is something in human nature which objects to being forced, even for its own good. Let those who have faith in the efficiency of vaccination as a prophylactic against smallpox—as all have who are amenable to conviction by demonstrated results—take advantage of the means of protection it affords. An outbreak of smallpox among the anti-vaccinationists will do more than any else to convince them. The public have got the peculiar idea fixed in

their minds that the medical profession has some personal, selfish motives to serve in their strenuous and persistent advocacy of compulsory vaccination. The enlightened and common sense manner in which the New York health authorities seek to obtain the confidence and support of the public in carrying out whatever measures they advise is an example that may well be followed elsewhere. The fact that those who believe in vaccination do not seek by compulsory legislation to force others to a like way of thinking will remove one of the strong arguments by which the anti-vaccinationists appeal to the public to resist compulsion as an interference with personal liberty.

OBITUARIES.

THEODULE BOLDUC.

DR. THEODULE BOLDUC, formerly of Montreal, and at one time, assistant house surgeon in the Notre Dame Hospital, died suddenly, on March 20th, of heart disease, in the parish of St. Urbain County of Charlevoix, at the age of twenty-six years. It was only ten days before that the young doctor, full of health, gave up his office at 2264 Notre Dame street, in Montreal to go to practice his profession in St. Urbain, and his numerous friends were much surprised upon hearing of his untimely death.

JOHN COVENTRY.

DR. JOHN COVENTRY, of Windsor, Ont., was born Dec. 9th, 1836, and died Feb. 22nd, 1902, of pneumonia, after ten days' illness. He was born in Scotland, and educated at Dollar Academy and Edinburgh. Coming to America in 1853 he entered various pursuits, taking up land, keeping store at Fingal in West Elgin, and at one time joining a party to survey the Northern Pacific Railway. The party reached the foothills, but were driven back by the Indians. He was then given a tract of land in Wisconsin, and after performing his settler's duties found he had to give up his allegiance to the British Crown in order to confirm his title. This he absolutely refused, and returned to Canada. He then took up the study of medicine and graduated at Buffalo Medical College in 1863. He then joined the 116th New York Volunteers as assistant surgeon, and served through the Civil War. Being afterwards offered the position of Chief Quarantine Officer of the southern ports, he declined and returned north, when he took a course at Ann Arbor. Again returning to Canada, he graduated at Victoria College in 1866. Locating in Wardsville, Middlesex Co., he remained there until 1873, when he removed to Windsor and continued in practice until the time of his last illness. He took a great interest in matters of sanitation, and to his judgment and foresight may be ascribed the remarkably clean health records of Windsor during his period of office as Health Officer. He strongly advocated a Dominion quarantine station at Windsor, and made more than one journey to Ottawa at his own expense to urge upon the Government the

necessity of this step. He was a prominent member of the Executive of the Health Officers' Association of Ontario since its formation, and was President in 1884. In 1897 he was elected President of the Ontario Medical Association. He always took a great interest in the affairs of the City, and was a councillor for several years and mayor for the consecutive years '80, '81 and '82. In 1882, when Windsor had an epidemic of smallpox, he gave up his practice for three months and devoted his time and energy to stamping it out. That the citizens appreciated his efforts was shown shortly after when they presented him with a silver service and \$500 in gold. A Conservative in politics, he was very liberal in his views, and a very strong believer in British connection. As a fellow practitioner he was of the true type and a perfect gentleman at all times. The esteem in which he was held by all classes was evidenced by the very large and representative gathering at his funeral.

WILLIAM SCOTT MUIR

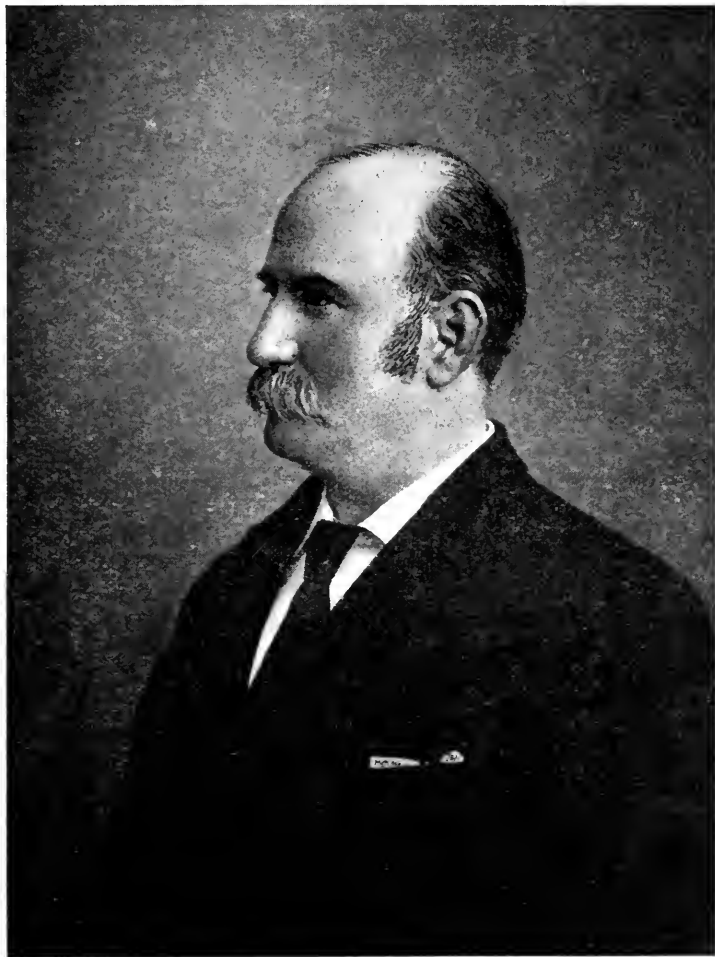
THE sudden death of Dr. Muir, Truro N.S., President of the Maritime Province Medical Association and Vice-president of the Canadian Medical Association, occurred at his home on March 10th, after a four days' illness. The day before his death, an operation for appendicitis was performed and the appendix was found gangrenous.

"Dr. Muir," says the *Maritime Medical News*, "was borne at Truro in October 1853, and was the third son of the late Samuel Allan Muir, who settled in this country about sixty years ago and practiced in Truro. He was a remarkably able man, a graduate of the University of Glasgow, and for many years one of the most prominent practitioners in this province. In those days most medical students began their career as private students or apprentices to leading practitioners, and Dr. Muir had generally three or four young men studying under him. It was thus from his father that Dr. W. S. Muir acquired the rudiments of medical science. He then studied under the medical faculty of Dalhousie College Halifax, graduating in 1874. He filled the position of resident physician and surgeon in the Provincial and City Hospital (now the Victoria and General Hospital) and thereafter practiced for a few months in Shelburne. He then went to Edinburgh where he continued his studies, and took the L. R. C. S., and L. R. C. P. He returned to Nova Scotia and settled in Truro in 1877, where he soon acquired a large practice.

"As an all-round practitioner, Dr. Muir had no superior and but few equals. His frank and genial nature, his transparent honesty, and his whole-souled devotion to his profession gained him the confidence of the public and the esteem of his colleagues. As years passed on he came to be largely called in consultation and he was very successful in surgical work. He had one of the best libraries in the country, was a subscriber to several medical journals, and kept well abreast of the march of medical progress.

"He was selected by the authorities of Dalhousie College as an examiner in Materia Medica and Therapeutics, and was also an examiner for the Medical Faculty of King's College and for the Provincial Medical Board.

" Dr. Muir was a man of fine physique, and in his younger days distinguished himself in various branches of athletics. He was an enthusiastic cricketer. He was also possessed of a fine voice and sang in St. John's church, and took an active interest in its affairs.



BY KINDNESS T. C. ALLAN & CO., HALIFAX.

DR. W. S. MUIR.

" Dr. Muir married, in 1879, Catherine, daughter of the late Walter Lawson, C. E., of Aberdeen, and leaves one son, Walter, at present pursuing his studies at King's College, Windsor."

Resolutions of sympathy were passed by the Medical Society of Nova Scotia, of which he was secretary for many years, and by the St. John (N.B.) Medical Society. Dr. Muir was a strong supporter of Dominion Registration.

RICHARD MAURICE BUCKE.

DR. R. M. BUCKE, late Superintendent London Insane Asylum, was killed by a fall, Feb. 19th. He was born March, 1837, at Methold, Norfolk, England. His father, Rev. Horace Walpole Bucke, a great, great grandson of Sir Robert Walpole, first Earl of Oxford, was educated at Trinity College, Cambridge. One year after the birth of Maurice, the father, with five sons and two daughters, emigrated to Canada and settled on a farm two miles east of the present City of London. To this home he brought a library of several thousand volumes in English, French, Italian, Spanish, Latin, Greek and Hebrew. Stimulated by curiosity to read his father's books, the young lad became his own school master. While yet a boy he had read nearly all the English volumes in his father's library. At the age of sixteen he lost both mother and father, and set out on a tramp over the territories west of the Mississippi. After five years wandering and working in various places he worked at placer mining in Western Nevada. In the fall of 1857, he and a companion became lost in the Sierra Nevada and after a week of terrible hardship they reached a mining camp in a semi-dead condition. Here his companion died of exposure and Bucke lost one leg and part of the opposite foot from frost gangrene. He then returned to Ontario and by good fortune his dead mother's estate furnished him with the means to study medicine. After graduating from McGill University in 1862, he spent a couple of years in post graduate work in London and Paris. Returning to Canada he settled in the Town of Sarnia. His first patient was the late Hon. Alex. McKenzie.

It was while at Sarnia he formed the acquaintance of Walt Whitman, to whom he was friend, biographer and literary executor. Dr. Bucke's "Life of Whitman" is still the standard book on the subject. In 1876, he was appointed Superintendent of the Hamilton Asylum and the following year he removed to the London Institution.

His work can be considered under (a) asylum reforms and (b) literary efforts. Dr. Bucke inaugurated in America absolute non-restraint, discontinued absolutely the use of alcoholic beverages in any form, and encouraged the employment of gynecological surgery in the treatment of insane women.

His first literary venture of any dimension was a two-hundred-page essay called "Man's Moral Nature," published in 1879. In the eighties he published "The Life of Whitman;" in 1898, "The Wound Dresser," and in 1899, "Notes and Fragments." His greatest effort, "Cosmic Consciousness," was published in 1901. At the time of his death he had ready for publication some discoveries in cipher supporting the Baconian authorship of the so-called Shakespeare's plays.

In addition to having the best Whitman collection in the world, his literary library exceeded five thousand volumes.

While possessed of literary ability of fine quality he was a thinker as well as a scholar, and his love was for those things that lie upon the spiritual side of life. In the highest sense possible he was a good man, full of high purposes and noble actions. He loved all innovators and emancipated persons.

He leaves a wife and a family of six; one son is practising medicine in London.

PERSONAL.

Dr. Dow, of Owen Sound, has had pneumonia.

Dr. Moore, of Brockville, has returned from New York.

Dr. McKillop, of Wardsville, has been very ill for a time.

Dr. H. B. Anderson, of Toronto, has returned from New York.

Dr. T. R. McInnes, of Vancouver, has returned from Australia.

Dr. F. X. Duplessis, of Richmond, Que., is removing to Montreal.

Dr. Mylks, of Kingston, has recovered from a blood-poisoned hand.

W. F. Roberts, of North End, N.B., has been visiting in New York.

Dr. J. E. M. Carnwath, of Hopewell Hill N. B., was married recently.

Dr. W. Milne, of Blyth Ont., is building a new office and drugstore.

Dr. J. Collinson, of Iroquois, has been attached to a Montreal hospital.

Dr. D. R. Livingstone, (Trinity '01), has begun practice at Winnipegosis, Man.

Dr. Charles Sheard, Medical Health Officer of Toronto, is spending a short holiday in New York.

Dr. Chambers, of Kincardine, has moved to Port Elgin. He has been succeeded by Dr. Cawthorpe.

Woodstock, N.B., is endeavoring to start a hospital. Neepawa, Man., is also in that frame of mind.

Dr. T. H. Morgan, (Trinity '97), has been appointed an assistant in dermatology in the New York Post Graduate Medical School.

Dr. R. Evatt Mathers, of Halifax, has recently visited some of the United States eye, ear and throat hospitals.

Miss Jessie Duncan has succeeded Miss Davis as lady superintendent of the Cornwall Hospital.

Dr. D. Fraser, of Lakefield, has been appointed an associate coroner for the County of Peterborough, Ont.

Dr. K. Colbeck, recently house surgeon in the Western Hospital, Toronto, is practising in Grand Valley with Dr. Hopkins.

Dr. A. E. Randall, of Truro, N.S., is collecting a Muir memorial hospital fund in memory of the late Dr. W. S. Muir.

Dr. T. C. Gadbourey, of Bryson, Que., has been appointed health officer for the county of Pontiac by the Quebec government.

Dr. Fred E. Bayfield, recently connected with the General Public Hospital of St. John N. B., has gone with the Elder-Dempster S. S. Co.

Dr. Easton has resigned his office as medical health officer for Smith's Falls, a position he has held for the past fourteen years.

Dr. Ritchie (Tor., '97), now engaged in practice in Warren, Ohio, paid a visit to Toronto a few days ago, and returned a benedict.

Dr. R. M. Minnes, of Ottawa and Dr. D. MacLennan, of Toronto, recently spent a short time in New York hospitals devoted to their special line of work.

The directors of the Royal Jubilee Hospital of Rat Portage have expressed themselves as pleased with the work of the past year, and speak highly of Miss Reynard the matron.

Dr. Harry J. Watson, (Trinity '96), has been appointed chief of the largest brigade hospital in the medical service of the American army in the Philippines.

Dr. Graef, (Tor. '98), of Vancouver, formerly resident medical assistant in the Toronto General Hospital, is attending the New York Post Graduate School, doing special work on the eye, ear, nose and throat. He leaves for England in a short time to pursue his studies along this line.

Miss Edith Mayou, who was at one time assistant superintendent in the Victoria Hospital at Montreal, has been appointed lady superintendent of the Victoria Hospital Training School of London Ont. She is an Englishwoman who has had much experience in the United States.

News of the sudden death of Dr. F. H. Thompson, (Trinity '98), who was acting as surgeon to a party engaged in a geological survey in Alaska in the service of the U. S. Government, recently reached Toronto. The deceased was well known and popular in Toronto, where his family reside.

Dr. E. P. Gordon, a graduate in medicine of Toronto University and at one time surgeon R.M.S. Empress of India, died recently in San Francisco. The deceased was about 36 years of age and was well known in Toronto where he practised for a few years. Some three years ago he was forced to give up his practice and go west owing to failing health.

At the triennial election of the British Columbia Council of Physicians and Surgeons held recently, the following were elected members of the council for the term now beginning: Drs. Jones, Fagan and Davie, of Victoria; Dr. Walker, New Westminster; Dr. Proctor, Kamloops; and Dr. R. E. McKechnie, Nanaimo. The members of the medical profession in the Province elect the council, whose duties are to conduct examinations and transact the business of the council.

BOOK REVIEWS.

VENEREAL AND SEXUAL DISEASES.

A Manual of Venereal and Sexual Diseases, by William A. Hackett, M.B., M.C.P.S. (Ont.), Professor of Dermatology and Venereal Diseases Michigan College of Medicine and Surgery; and N. E. Aronstam, M. D., Ph. G., Assistant in Chemistry and Clinical Dermatology. Michigan College of Medicine and Surgery; G. P. Engelhard & Co., Chicago, 208 pages, cloth, \$1.00.

THE authors have given us in this volume a concise and at the same, time comprehensive description of the symptoms and therapeutics of venereal and sexual diseases. They claim to discard all theoretical knowledge pertaining to the subject, and to treat it entirely from the clinical and practical side. This attitude is manifest in their suggestion that in gonorrhœa the gonococcus is not always present and the implication that it is not a necessary concomitant.

Part I. Gonorrhœa and its complications, is the best part of the work, many useful hints, and formulae being given, including illustrations and directions for the Valentine treatment. The limits of space prevent the description of the syphilides to be of great value, and Part IV. Sexual Diseases while suggestive is also rather brief. On the whole it is a useful and convenient handbook for either student or practitioner and merits a wide popularity.

A. J. M.

CLINICAL PATHOLOGY OF THE BLOOD.

Clinical Pathology of the Blood, a treatise on the general principles and special applications of Hematology. by James Ewing. A. M., M. D., Professor of Pathology in Cornell University Medical College, New York City, illustrated by thirty engravings and fourteen colored plates drawn by the author. Lea Brothers and Co., New York and Philadelphia, 1901, 432 pages, cloth, Price \$3.50.

THE last few years have seen a vast increase in the amount of our knowledge of the blood in its physiological and pathological states, and a distinct advance has been made in scientific diagnosis, by the careful study of varying changes produced therein by altered conditions of the body. The use which has been made of this knowledge in practice rarely exceeds the determination of the number and form of the cells, and the rough estimation of hemoglobin, the further knowledge which may be gained being neglected. The patient and minute investigations into the many aspects of this subject have brought to light much that is of an interesting nature, and have added much to the stock of human knowledge, they have also furnished us with data that form useful bases for diagnosis and treatment, but to the ordinary member of the medical profession this has been a closed book, as it could be found only in the monographs or journals where it was first published. It has re-

mained for the author of this work to bring the results of these labors before the reading public in the form of his text-book, in such a manner as to be generally available.

Whether this knowledge will be of general use remains open to question. Many of the processes are too complicated, too difficult, and for their success too dependent on constant scientific practice of laboratory methods to be of much use to a busy man, or to one to whom such appliances are not available, but at least we are assisted to a rational as opposed to an empirical position with regard to disease and its cure.

The book consists of 432 pages, embellished by thirty engravings and fourteen colored plates—one feels that it would gain by fuller illustration.—There is an introduction on interpretation of analysis of the blood which closes with the very suggestive and sensible statement that the examination of the blood having been performed, its results are to be interpreted only in the light of the fullest clinical information, Part I treats of general physiology and pathology, Part II of the special pathology of the blood, Part III, IV and V of the blood in various diseases, and Part VI on animal parasites. Much of the theoretical discussion in the volume, abstracts of special articles, and reports of cases have been set in fine print, so as not to encumber the main text. All available sources of information have been freely consulted, and the writer constantly cites authorities, so much so indeed as to give the text a disconnected character. At the end of each chapter a complete Bibliography is given.

A. J. M.

NOTHNAGEL'S ENCYCLOPAEDIA OF PRACTICAL MEDICINE.

Variola, by Dr. H. Immermann, of Basil; Vaccination, by the same writer; Varicella, by Dr. Th. Von Jurgensen, of Tübingen; Cholera Asiatica and Cholera Nostralis, by Dr. C. Liebermeister, of Tübingen; Erysipelas and Erysipeloid, by Dr. Hermann Lenhart, of Hamburg; Whooping Cough, by Dr. Georg Sticker, of Giessen; and Bostock's Summer Catarrh, by the same author. Edited with additions by Sir John W. Moore, M.D., F.R.C.P., Professor of Medicine in the Royal College of Surgeons in Ireland. Authorized translation from the German under the supervision of Alfred Stengel, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Philadelphia and London: W. B. Saunders & Company. Vol. II, 1902.

THE articles in this volume are of very high merit. It would be difficult to give greater praise to one than another. They are so exhaustive as to leave nothing untouched. To each article is appended a complete bibliography of the subject. The type and paper could not be surpassed. Indeed, in matter and form the volume is a superb one, and reflects great credit on both authors and publishers. Such a work should have a wide sale. To read it is a real pleasure—there is so much reward for the trouble.

J. F.

THE CANADA LANCET

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No. 9

DOMINION MEDICAL COUNCIL ACT.

By THE EDITOR.

THE thanks of the entire medical profession of Canada is due to Dr. Roddick for his efforts in connection with the important question of a Dominion Medical Council. Dr. Roddick has struggled on for years; and now sees his efforts crowned with success, so far as it was possible for him to go in the new direction.

The Act in itself is a very important and valuable one. It does not interfere with provincial rights in the least. There is a clause in the Act to the effect that the several Provincial Legislatures must approve of the terms of the Act. When this is done, the Dominion Council, as arranged for in the Act, comes into operation. It is to be sincerely hoped that the Provincial Legislatures will lose no time in enacting such a measure as will make effective Dr. Roddick's Act.

The Act is comprehensive in its scope. When all the Provinces have approved of it, a vast step will have been taken onwards in Medical Education and the status of the medical profession. The CANADA LANCET gives its many readers the text of the Act. It is, perhaps, the most important Act that has ever been passed in Canada, so far as the medical profession is concerned. It will have much influence in binding the Provinces more closely together into a United Dominion, and the Dominion with Great Britain. The union of the medical profession of Canada into one harmonious body, and them with that of Britain, will wield no small weight in the Empire's affairs. It can truly be said of Dr. Roddick, as was said of Christopher Wren, "Si monumentum requiris, circumspice."

THE ACT.

An Act to provide for the establishment of a medical Council in Canada.

HIS Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows :—

1. This Act may be cited as *The Canada Medical Act, 1902.*

2. In this Act, unless the context otherwise requires :—

(a) The Expression "medicine" shall be held to include surgery and obstetrics and to exclude veterinary surgery, and the expression "medical" shall be held to include "surgical" and "obstetrical."

(b.) The expression "Provincial medical council" includes "Provincial medical board" and "College of Physicians and Surgeons."

"(c.) The expression 'medical school' includes any institution wherein medicine is taught."

"(d.) The expression 'student' means only persons admitted to the study of medicine in virtue of Provincial laws."

3. The persons from time to time appointed or elected, or otherwise being, under the provisions of this Act, members of The Medical Council of Canada, are hereby constituted a corporation under the name of "The Medical Council of Canada," hereinafter called "the Council."

4. The purposes of the Council shall be to promote and effect—

(a.) The establishment of a qualification in medicine, such that the holders thereof shall be acceptable and empowered to practice in all the Provinces of Canada ;

(b.) The establishment of a register for Canada of medical practitioners, and the publication and revision from time to time of such register ;

(c.) The determination and fixing of the qualifications and conditions necessary for registration, including the courses of study to be pursued by students, the examinations to be undergone, and generally the requisites for registration ;

(d.) The establishment and maintenance of a board of examiners for examination and for the granting of certificates of qualification ;

(e.) The establishment of such a status of the medical profession in Canada as shall ensure recognition thereof in the United Kingdom, and enable Canadian practitioners to acquire the right to registration under the Acts of the Imperial Parliament known as the "Medical Acts ;"

(f.) The enactment, with the consent and at the instance of the medical councils or boards of the various Provinces of Canada, of such Provincial legislation as is necessary to supplement the provisions of this Act and to effect the foregoing purposes.

5. The Council may acquire and hold such real estate and personal property as is necessary or expedient for the purposes of the Council or of providing a revenue therefor, and may sell, lease or otherwise dispose thereof ; but the annual value of the real estate owned by the Council and held for the purposes of revenue only shall not at any time exceed the sum of twenty-five thousand dollars.

6. The Council shall be composed of—

(a.) One member from each Province, who shall be appointed by the Governor in Council.

(b.) Members representing each Province, their number being fixed in each case according to the number of practitioners registered under the law of the Province, in the following proportions :—

For the first 100, or fraction thereof..... One.

For the second 100, or fraction thereof over one-half.. One.

After the first 200, for each succeeding 600,

or fraction thereof over one-half... .. One.

The elected members representing each Province shall be elected—one by the Provincial Medical Council, and the others by the duly registered medical practitioners having received a license or certificate of registration within the Province under regulations to be made in that behalf by the Provincial Medical Council ; provided that it shall not be competent to any Provincial Medical Council, or the regular practitioners of any Province, to elect any person as a member of the Council who is in

any wise connected with the teaching staff or governing board of any university or incorporated medical school which is under the provisions of this Act entitled to elect a member of the Council, nor shall it be competent to them to so elect any person belonging to any such particular and distinct school of practice of medicine as is mentioned and intended by paragraph (d.) of this subsection ;

(c.) One member from each university or from any incorporated medical college or school in Canada having an arrangement with a university for the conferring of degrees on its graduates, engaged in the active teaching of medicine, who shall be elected by the university or by such college or school under such regulations as may appertain.

(d.) Three members, who shall be elected by such practitioners in Canada as, by the law of the Province wherein they practice, are recognized as forming a particular and distinct school of practice of medicine, and as such, are by the said law entitled to practice in the province.

(2.) No one shall be a member of the Council unless he—

(a) resides in the Province for which he is an appointed or elected member ;

(b.) is duly registered as a medical practitioner in the register established under the provisions of this Act ; but this qualification shall not be required of any of the members originally composing the Council.

(3.) No Provinces shall be represented upon the Council either by appointed or elected members until the Legislature of the Province has enacted in effect that registration by the Council shall be accepted as equivalent to registration for the like purpose under the laws of the Province, and when all the Provinces shall have legislated in effect as aforesaid, it shall be lawful to appoint and elect in the manner aforesaid the members of the Council : Provided, however, that if any of said legislatures afterwards repeals its legislation contemplated by this section, no more persons shall be given the right to practise medicine within the jurisdiction of such legislature, by reason of their qualification or registration under this Act.

7. The term of office for appointed members shall be four years.

(2.) Members elected by Provincial medical council shall remain in office until the expiration of the term of office of the members of the medical Council of the Province for which they are elected.

(3.) All other members shall be elected for four years.

(4.) Any member may at any time tender his resignation by written notice thereof to the president or to the secretary of the Council. Upon the acceptance of such resignation by the Council, the Council shall forthwith give notice in writing thereof, in case of an appointed member to the Secretary of State of Canada, and, in case of an elected member, to the secretary of the medical council for the Province, or to any University, incorporated Medical School or College, or to the President or the Secretary of any recognized distinct School of Practice of Medicine represented, which such member represents.

(5.) Any person who is or has been a member may, if properly qualified, be re-appointed or re-elected ; but no person shall at one time serve as a member in more than one capacity.

(6.) In the case of members of the Council whose term of office is about to expire, successors may be appointed or elected at any time within three months before the expiration of such term ; provided that where any vacancy exists in the membership of the Council by reason of any term of office having expired, or otherwise, such vacancy may be filled at any time.

(7.) If there has been a failure to elect a member of the Council, or to elect a properly qualified member, or to cause the name of the member elected to be certified to the secretary of the Council within a reasonable time after such election might have been made, then, after notice from the Council, requiring the Provincial medical council, or the incorporated Medical School or College or University, or the recognized distinct School of Practice of Medicine to cause such election to be made and to certify the result thereof to the Council within one month from the date of service of such notice, the Council may, in case the default continues, itself elect such member.

(8.) A member appointed or elected to fill a vacancy caused by death or resignation shall hold office in all respects as the person in whose place he is appointed or elected would have held office, and for the remainder of the term for which that person was appointed or elected.

(9.) All members appointed or elected shall continue in office until their successors are appointed or elected, or until the expiration of their term of office if their successors are appointed before the expiration of such term of office.

8. The Council may from time to time—

(a.) elect from among its members a president, a vice-president and an executive committee ;

(b.) appoint a registrar, who may also, if deemed expedient, act as secretary and treasurer ;

(c.) appoint or engage such other officers and employees as the Council deems necessary to carry out the objects and provisions of this Act ;

(d.) require and take from the registrar, or from any other officer or employee, such security for the due performance of his duty as the Council deems necessary ;

(e.) fix the allowances or remuneration to be paid to the president, vice-president, members, officers and employees of the Council.

9. The Council shall hold its first meeting at the city of Ottawa, at such time and place as is appointed by the Minister of Agriculture ; and, thereafter, an annual meeting of the Council shall be held at such time and place as is from time to time appointed by the Council.

(2.) Until otherwise provided by regulation of the Council, twenty-one members of the Council shall form a quorum, and all acts of the Council shall be decided by a majority of the members present.

(3.) The president or vice-president, when in the chair, and the chairman of any meeting of the Council or of any committee of the Council, shall have a casting vote in addition to his vote as a member of the Council or of the committee.

10.—(1.) The Council may make regulations not contrary to law or to the provisions of this Act, for or with reference to—

(a.) the purposes mentioned in paragraphs *a*, *b*, *c*, *d* and *e* of section 4 and in section 8 of this Act ;

(b.) the direction, conduct and management of the Council, and of its property ;

(c.) the summoning and holding of the meetings of the Council, the times and places where such meetings are to be held, the conduct of business thereat, and the number of members necessary to constitute a quorum ;

(d.) the powers and duties of the president and vice-president, and the selection of substitutes for them if unable to act for any cause at any time ;

(e.) the tenure of office, and the powers and duties of the registrar and other officers and employees ;

(f.) the election and appointment of an executive committee and of other committees for general and special purposes, the definition of their powers and duties, the summoning and holding of their meetings, and the conduct of business by such committee ;

(g.) generally, all fees to be required, paid or taken under this Act ;

(h.) including the establishment, maintenance and effective conduct of examinations for ascertaining whether the candidate possesses the qualifications required ; the number, nature, times and modes of such examinations ; the appointment of examiners ; the terms upon which matriculation and other certificates from universities, schools and other medical institutions shall be received as evidence of qualification ; the dispensation of candidates from undergoing examinations, either wholly or partially ; and generally all matters incident to such examinations or necessary or expedient to effect the objects thereof :

Provided, however, that—

(i.) The requirements of any curriculum established by the Council, shall not, at any time, be lower than the requirements of the most comprehensive curriculum then established for the like purpose in any Province ;

(ii.) The standard of examination shall not, at any time, be lower than the highest standard for the like purpose then established for ascertaining the qualification for registration in any Province ;

(iii.) The possession of a Canadian university degree alone, or of a certificate of Provincial registration founded on such possession obtained subsequent to the date when this Act shall have become operative, as provided in subsection 3 of section 6 hereof :—Provided that no retroactive effect shall be given to this Act, and especially as regards persons duly inscribed as students under the laws of any of the Provinces of Canada at the time it shall become operative as aforesaid ;

(i.) The recognition of licenses granted by any British, Canadian, colonial or foreign licensing body or authority ; the arranging and bringing into effect of any schemes of reciprocity as to registration with any British, colonial or foreign medical licensing body or authority ; the terms and conditions upon which, and the circumstances under which, medical practitioners shall be entitled to registration under this Act in cases where such medical practitioners are duly registered or licensed under the Medical Acts of the United Kingdom, or under the laws of any British possession other than Canada, or under the laws of any foreign country, which British possession or foreign country extends reciprocal advantages to Canada ;

(j.) Generally, all matters which it is necessary or expedient to provide for or regulate in pursuance of the purposes of this Act and in furtherance of its general intention.

(k.) The enrolment and registration of all persons entitled under this Act to appear on the register for Canada of medical practitioners.

(2.) No regulation made under the authority of this section shall have effect until approved by the Governor in Council, and such approval shall be conclusive evidence that the regulation has no retroactive effect

11. A copy of any such regulation certified by the registrar or secretary under his hand and the seal of the Council, may be received in evidence in any court of justice without proof other than the production of a copy purporting to be so certified.

12. The Council shall enact such regulations as shall secure to practitioners who, under the laws of any Province, are now recognized as forming a particular school in the practice of medicine, and to all applicants for registration who desire to be prac-

tioners of such school, all the rights and privileges now possessed by them under the laws of any province, and the regulations of any Provincial medical council.

13. At each annual meeting of the Council, the Council shall appoint a board of examiners, to be known as "The Medical Council of Canada Examination Board," whose duty it shall be to hold the examinations prescribed by the Council, subject to the provisions of section 12 of this Act.

2. The members of the board of examiners shall be eligible for reappointment.

14. The subjects of examination shall be decided by the Council, and candidates for examination may elect to be examined in the English or French language; and the examinations shall be held only at those centres at which there is a university or college actively engaged in the teaching of medicine and having hospital facilities of not less than one hundred beds.

15. The Council shall cause to be kept by the registrar, under the direction of the Council, a book or register to be known as "The Canadian Medical Register," in which shall be entered, in such manner and with such particulars as the Council directs, the names of all persons who have complied with the requirements of this Act and with the regulations made by the Council respecting registration under this Act, and who apply to the registrar to have their names so entered.

16. Every one who passes the examination prescribed by the Council, and otherwise complies with all the conditions and regulations requisite for registration as prescribed by this Act and by the Council, shall, upon payment of the fees prescribed in that behalf, be entitled to be registered as a medical practitioner

2. Any person who has received a certificate of registration previous to the passing of this Act and who has been engaged in the active practice of medicine in any one or more Provinces of Canada, shall, after six years from the date of such certificate, be entitled to be registered under this Act as a medical practitioner, without examination, upon payment of the fees and upon compliance with the other conditions and regulations for such cases prescribed by the Council.

(3.) Any person coming within any of the classes of registered or licensed practitioners to which paragraph (i) of section 10 of this Act applies shall be entitled to be registered upon complying with the orders and regulations established by the Council in that behalf.

17. Any entry in the register may be cancelled or corrected upon the ground of fraud, accident or mistake.

18. (1) In any case of an application for registration or for correcting or amending any entry upon the register, the applicant, if aggrieved by the decision of the registrar, may appeal to the Council, and the Council shall hear and determine the matter; but all applications to cancel or strike off entries from the register made adversely to the person whose registration it is desired to affect shall, after three months' notice sent by post, prepaid and registered, to the last known address of such person, who shall have the right to appear by counsel, hear and determine all such applications.

(2.) The decision of the Council in all matters affecting the register, the entries made or to be made therein, and the right to registration, whether upon appeal or otherwise, shall be final.

19. If it is made to appear to the Council, after inquiry, that any person registered under this Act has been convicted, either in any part of His Majesty's possessions or elsewhere, of an offence which if committed in Canada would be an indictable offence

under *The Criminal Code*, 1892, and its amendments, or that he has been guilty of infamous or disgraceful conduct in a professional respect, then, whether such offence has been committed, or such conviction has taken place, or such infamous or disgraceful conduct has occurred, either before or after the passing of this Act, or either before or after the registration of such person, the Council shall, after three months' notice sent by post, prepaid and registered, to the last known address of such person, who shall have the right to appear by counsel, direct the registrar to erase the name of such person from the register : Provided, however, that if a person registered under this Act has likewise been registered under the laws of any Province, and such provincial registration has been cancelled for any of the causes aforesaid by the authority of the medical council for that Province, the Council shall then, without further inquiry, direct the registration of such person under this Act to be cancelled.

(2) The name of a person shall not be erased under this section—

(a.) because of his adopting or refraining to adopt the practice of any particular theory of medicine or surgery ; or

(b.) because of his conviction out of His Majesty's possessions of a political offence against the laws of any foreign country ; or

(c.) because of his conviction for any offence which, though coming within the provisions of this section, is, in the opinion of the Council, either from the trivial nature of the offence or from the circumstances in which it was committed, insufficient to disqualify a person being registered under this Act.

20. (1) Whenever it is made to appear to the Governor in Council by a Provincial medical council that any of the requirements of paragraphs (i) and (ii) of the proviso to paragraph (h) or section 10 of this Act are not complied with, the Governor in Council may empower the commission of arbitration hereinafter provided for to inquire in a summary way and report to him whether such is the case and, if so, to prescribe what remedies are necessary, if any.

(2) The Governor in Council may require the Medical Council of Canada to adopt the said remedies within such time as he, having regard to the report of the commission, thinks fit to appoint. In default of the Council so doing, he may by Order in Council amend the regulations, or make such provision or order as he deems necessary to give effect to the decision of the commission.

(3) The commission of arbitration shall be composed of three members, one to be appointed by the Governor-in-Council, one by the Medical Council of Canada, and the third by the complainant.

(4) The commission may compel the attendance of witnesses and examine them under oath and require the production of books and papers, and shall have such other necessary powers as are conferred upon it by the Governor in Council for the purposes of the inquiry.

21. This Act shall not be interpreted as authorizing the creation of medical schools, or otherwise giving medical tuition.

GASTRO-JEJUNOSTOMY.*

By J. A. GRANT, Jr., M.D.,

St. Luke's Hospital, Ottawa.

BATISTE SOUBLIER, aged 61, was admitted to the hospital, July 22nd, 1901, complaining of abdominal pains, vomiting and loss of flesh.

The only points of interest in the case were that, in Feb. of that year, he was quite strong, when his stomach began to trouble him. He had always been used to hard work, chiefly in the shanties, and drank a large quantity of whiskey. His weight had lately fallen from 162 to 140 lbs. Under medicinal treatment and lavage, the patient's condition became more serious; and, for the first time since admission to the hospital, he had a hæmatemesis on the 28th August.

I had frequently palpated his stomach, but had never been able to diagnose definitely any tumor.

I now made out a rather distinct growth in the region of the pylorus; and decided to do a pylorectomy at once, as the patient was fast losing strength, and suffering more or less constant and severe pain.

Under the anaesthetic the tumor could not be palpated at all distinctly, and one of my assistants thought it superficial.

On opening the abdominal cavity by a median incision, the great omentum was found firmly adherent to the parietal peritoneum. It was ligatured and divided.

On examining his stomach, a large carcinomatous mass was found involving the first portion of the duodenum, the whole of the pylorus, and extending well up the pyloric end of the stomach. It was well covered by the liver and so firmly adherent that it was absolutely impossible to do a pylorectomy. I at once decided to do a gastro-jejunosomy, making an opening in the transverse meso-colon, the posterior wall of the stomach was drawn through the opening and clamped, the jejunum was picked up close to the ligament of Treitz and clamped in two places.

By a continuous Lambert suture the jejunum and stomach were first approximated—the parts being well protected by aseptic towels. An incision 3 inches in length was then made in both stomach and jejunum. The edges of these openings were united by through and through interrupted stitches, and the continuous suture brought around the anterior surface.

The patient made an uneventful recovery. The pain, vomiting and more urgent symptoms were immediately relieved. I have seen the patient to-day, 6 months after the operation, and find him in a very good

* Read before the Ottawa Medical Society.

condition. He has gained 20 lbs., has a splendid appetite, and in fact can eat anything, and there has been no regurgitation of food into the stomach. His general appearance is good, being very much better than when he left the hospital. He goes about and enjoys life.

I wish to speak briefly on the following points in connection with this case :—

1. The value of early exploratory laparotomy ;
2. The choice of operations ;
3. Sutures.

On reading over the subject of cancer of the stomach and comparing the well-marked picture given us, with the meagre clinical symptoms we so often find, one cannot help feeling the utter impossibility of at present diagnosing this disease, not only at an early stage but even at a late stage in many cases.

In this patient, during his first month in hospital no definite diagnosis could be made although he had been complaining 5 months ; and it was only two days before the operation that he had his first hæmatemesis, and even then the question of a tumor was fairly indefinite, although a large one was discovered at the operation, but it was so firmly fixed and overlapped by the liver that it could not be palpated positively. The question of early diagnosis of this disease is of great importance ; and, as our present methods of diagnosis are so uncertain, exploratory laparotomy will in future have to be done much more frequently, as by this means you not only settle the question of diagnosis, but may discover the cancer before its extensive growth and lymphatic infection preclude the possibility of complete removal.

One of the troubles most frequently confounded with cancer, "gastric ulcer," is fast becoming a surgical disease, thus making exploratory laparotomy all the more necessary.

A. E. Maylard, in his work on the surgery of the Alimentary Canal, says : "It is not, I think, too venturesome to predict that the day is not far distant when the stomach will be explored and resutured simply for diagnostic purposes." Again he says : "My sole contention is that we should not go on indefinitely striving to cure by simple remedial measures diseases of the stomach, as to the true nature of which we are in doubt, but should submit the patient to an exploratory operation."

With regard to the operation in pyloric cancer Loreta's Method and pyloroplasty should, I think, have no place, as both are performed on the pylorus, simply seeking to enlarge the stricture without any attempt at the removal of the malignant growth, consequently they are very temporary in their results, and the mortality is almost as great.

The choice is between pylorectomy and gastro-jejunostomy. There is no question that an operation, which seeks to entirely remove the cancerous growth must rank higher than one which simply side tracks it; and so pylorectomy is the more ideal operation, theoretically speaking; but until we arrive at a stage when pyloric cancer will be diagnosed early, pylorectomy is practically out of the question, as the disease has usually made such strides and the lymphatic infection is so advanced that removal of the growth is impossible. Further, the mortality of pylorectomy is so much greater in advanced cases that it can hardly rank as a competitor to gastro-jejunostomy.

George Heaton says: "It is only quite recently being recognised what an excellent palliative measure a well-timed and executed gastro-jejunostomy is in such cases."

Much of the agony of cancer of the stomach is due to the obstructions, which the growth presents to the free exit of the stomach contents through the pylorus; and also to the gastritis, set up by the retained food, and broken down portions of the growth. This obstruction causes dilatation of the stomach, the greater curvature becoming so dependent that it is doubtful if a pylorectomy would ensure a complete evacuation of the stomach's contents.

The artificial opening in gastro-jejunostomy is made in the most dependent part, and effectually drains the stomach, the food is no longer retained in the organ, and the growth itself is much less irritated by food.

With regard to anterior and posterior gastro-jejunostomy, Wolfer's or Von Hacker's method, there seems to be little choice; and, if there are no pathological conditions present to influence us, we may choose for ourselves, judging by recent comparisons. I did the posterior, that is Von Hecker's method, and it seems to me to displace the stomach and intestines less, picking up the jejunum just as it emerges under the ligaments of Treitz, where it is only separated from the greater curvature of the stomach by the transverse meso-colon. This being opened here, these two viscera come naturally into apposition; and, I think, we reach the most dependent portion of the stomach. On the other hand, by Wolfer's method the jejunum has to be brought over the transverse colon, and is subjected to more or less pressure which also must tend to block the gastro-jejunal opening, favouring regurgitation of the bowel contents into the stomach, a complication seemingly more frequent in the anterior than in the posterior method. Let us remember that the anatomical course of the small intestine is behind, not in front, of the transverse meso-colon, and I think we do well to imitate it.

A WORD ABOUT SUTURES :

I used a through and through interrupted stitch, tying those on the posterior edge inside the opening and those on the anterior outside, taking care to bring the serous surfaces into apposition. The continuous stitch outside these was a Lambert.

Our success or failure in intestinal surgery lies chiefly in our stitching. If we adopt some laborious stitch our operation is apt to be prolonged beyond the patient's power of endurance as mortality is greatly dependent on the length of the operation. On the other hand, there must be no leakage from defective apposition. Much has to be learned in this direction. Lambert's continuous suture for the final closure is I think the best ; but I am not at all sure that a simple through and through stitch to first approximate the edges is not preferable to a Czerny-Lambert, or Wolfer. It is quickly applied, and there is no time lost in trying to differentiate the intestinal coats.

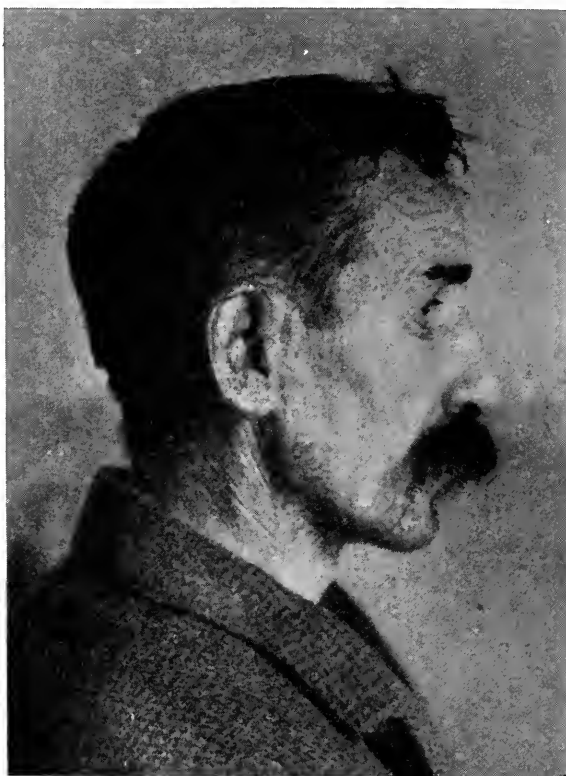
Some idea of the size of hole that may be made in the intestinal wall without leakage is gained by the injury inflicted by a Mauser or Lee Metford bullet, many instances of recovery being on record after such lesions. Compare this with a needle puncture and we can imagine how much less the chances of leakage.

Postmortem operations on the intestines are an imperfect guide as to the comparative value of the different methods, as every injury to a living tissue is immediately followed by the exudation of inflammatory material, which at once tends to block the puncture ; and, rapidly becoming organized, cements the opposing surfaces. It seems that if the parts can only be kept at rest for a reasonably short time all chance of leakage will have passed. What will be our form of suture, what intestinal layers involved, what care must be taken, and time absorbed in the nicety of our apposition, are all points that time alone will solve. We are on the threshold of intestinal surgery. Czerny, Lambert, Senn, Halstead, Abbe and Maunsell are all pioneers ; and, I feel sure, some simple and expeditious method will be evolved which will not only shake the faith of the many advocates of mechanical aids, such as the "Murphy button," but, by our decreased mortality, will enable us with a far greater degree of freedom to perform an exploratory laparotomy at an early stage in gastric and intestinal cases as to the true nature of which our diagnosis remains uncertain.

DIPHTHERIA OF THE EXTERNAL EAR.*

By G. H. CARVETH, M.D., Toronto.

The patient was a man 45 years of age, father of four healthy girls. His previous history is unimportant. The girls were vaccinated and all four cases took, developing staphylococcus infection which eventually healed completely. The patient at this same time had a scratch upon the right ear with a piece of skin torn off. Four days later he noticed considerable swelling for which he consulted me (see photo). At first appearance it seemed like a frost bite, but on the next day it looked very



much like erysipelas. Out of curiosity I took a swab expecting to find streptococcus infection, but was very much surprised to find the diphtheria bacillus. Wishing to be positive another swab was taken and submitted to the Provincial health authorities, who reported Klebs Löffler. A swab from the throat was free from Diphtheria germs. The treatment consisted in isolation, the ear being washed with Bi-chloride 1-1000 and tied up in carbolic soln. 1-40 At the end of one week of this treatment the germs

*Read at Toronto Medical Society Jan. 1902.

were very vigorous. They were still found present at the end of twenty-five days, but not on the twenty-seventh day. Ulceration and membrane formation were both present. Recovery was complete on the thirtieth day. The temperature, pulses and respiration were normal throughout.

POINTS OF INTEREST

1st. Diphtheria may be contracted in a very simple way. This man could easily have placed the germs where they could have spread to a very large number of homes, as for instance, by washing his face and ears on a towel in the factory where he worked.

2nd The Diphtheria germs were treated with strong antiseptics and were not killed. Hence there is no use in spraying the nose and throat with Bi-chloride 1-3000 or 1-100 carbolic solution.

3rd. Diphtheria of the external parts of the body and not in the throat concurrently is very uncommon. Even Diphtheria of the external parts with throat involment is not common.

DISCUSSION

Dr. A. Fletcher asked if the Silver Salts had been used. Dr. W. J. Wilson said this is the first case he has heard of where the body only and not the throat was infected. He related a case of a woman with infection of the throat and wrist. The House Surgeon in the Children's Hospital reported a case of Pustules on the Scalp containing Klebs Löffler but none were found in the throat. Dr. Graham Chambers said that Morris in his new work on Skin Diseases states that Dermatitis due to Diphtheria may occur with wash-leather like membrane. Dr. McPhedran stated that the germ did not penetrate the tissues and asked why should it penetrate the membrane. The treatment and result was very instructive. Dr. Andrew Gordon asked if Formalin had been tried, also if there had been any rapid extension. Dr Bryans asked what cured the case. He had seen a case of Diphtheria at the back of the neck with infection of the throat. Dr. Rowan reported a case of Diphtheria of the Vulva and Vagina, source of infection not known, both cases died, but there had been no symptom of throat trouble in either case. However, swabs had not been taken. Dr. Rudolf asked if any cases of wound infection following throat trouble had been reported.

REPLY

Dr. Carveth said no other antiseptics had been used in this case than those already mentioned and that these were employed throughout its entire course. The disease ran its course and he thought he had interfered with the formation of the anti-toxins by his treatment. The diseases did not extend beyond the ear. The source was unknown.

TREATMENT OF CHRONIC PROSTATIC ENLARGEMENT.*

By J. W. SHAW, M.D., Clinton, Ont.

THE symptoms, diagnosis and characteristics of prostatic enlargement will not receive much notice: for to give a full paper on the subject would occupy far too much of your valuable time. Although the treatment of chronic prostatic enlargement has long been under the attention of the profession, and, notwithstanding the great progress made towards its solution, there is still room for improvement, although we think an almost ideal operation can be done, of which you will hear later on. The prostate gland—*musculo glandulæ*—situated at the outlet of the bladder, and surrounding its neck, behind the triangular ligament and impinging on the rectum, has two lobes, united by an inferior and superior isthmus from apex to base, this union forms the prostatic region of the urethral canal. The base embraces the vesico-urethral orifice and the anterior ends of the supermatic canals. It is well supplied with blood vessels, nerves and lymphatics, which may explain the more or less mental and physical reflexes which occur after operations, and also in infectious diseases attacking this organ. It is both a genital and a urinary organ, because the milky mucous secretion contributes largely to dilution of semen; and, being muscular, helps the ejaculation of semen. The floor is particularly the seat of the pleasurable sensations, experienced in the functional act. There is a divergence of opinion as to whether it assists in urination or not; but the majority are of the opinion that, being an integral part of the urethra, it assists in expelling the urine. It attains its normal size about 25 years of age, and increases slightly after 50. Enlargement is the proper term, not hypertrophy, as it is not over-nourished, but rather the contrary.

Prostatic enlargement is a disease of old age, seldom giving trouble under 45 years of age. Not more than 40 per cent. of men, between 55 and 70, are affected with chronic enlargement, which rarely begins after 70; and of those 40 per cent. not more than 6 per cent. suffer seriously from disordered urination.

So it seems plain with such a diversity of morbid states and freaks of form, that no exact method of treatment can consistently be adopted, but that the proper management of any case must be premised by a diligent inquiry into each particular case.

Formerly, the progressive enlargement was regarded as a chronic inflammatory action. Later on, by the aid of modern methods, research

*A paper read before the Huron Medical Association.

has led to the belief that phlegmatic action, excited by hyper-lithuria, common between 30 and 60, is a potent factor in the enlargement.

Microscopic examination of the soft prostates of the aged shows no new growth, but an increase in the bulk, due to dilatation of the ascini with increase in the number of muscle bands, perhaps due to increased contraction of the bladder.

Among the etiological factors may be mentioned the following :— Infection from disease, mechanical and chemical violence, masturbation, sexual excess, passage of instruments, urethral and bladder diseases, anal and rectal diseases, exposure to cold, alcoholic and dietic excesses, the gouty, rheumatic and tubercular diatheses.

In some cases, only one lobe is enlarged. In others, both, and again the isthmuses also may be slightly enlarged with some residual urine, and recurrent cystitis.

Treatment becomes necessary when the functions of the bladder are interfered with, generally speaking, in ordinary cases of prostatic enlargement, of however long standing, in which obstruction is not great, and the power of bladder is fair and there is not an excessive amount of residual urine, or if the use of the catheter is easy and painless, and the cystitis not severe but controllable by antiseptic washing, operative treatment is not indicated.

In cases not governable by the above, operation is essential. The following methods have been employed with more or less success.

(1) Cauterization through the rectum : clean out the rectum, plug above with gauze, hook down the prostate and cauterize for two minutes with actual cautery over whole extent of prostate, confine the bowels and keep the catheter in the bladder for some time. This plan has not given very satisfactory results.

(2) Castration had given the best results in the hands of many surgeons, though accompanied by many disadvantages double castration is necessary. The favorable results are due to a shrinkage, caused by reflex reduction of hyperaemia followed by atrophy, chiefly nervous. The power to void urine is the first symptom after castration, but is not always permanent. Atrophic changes then begin, as the spermatic plexus has been ligated. Psychological disturbances may follow. Some authorities attribute these to uraemia. Castration is more efficacious in those cases of large and tense prostates where obstruction is due to pressure of the lateral lobes on the urethra. It is of no use whatever in myomatous and fibrous prostates.

(3) When castration is objected to, division of the vas deferens has been resorted to. After the vas is divided it becomes converted into a

cord and the testicle atrophies. The effect in some cases has been prompt and efficacious, and accompanied with far less danger than castration.

(4) Enucleation of entire gland I consider the only reliable operation. It was first performed in 1866 by Billroth and in 1873 by Dr. Margay. The advantages over castration are that it allows a thorough examination of the bladder and the discovery of other conditions not before suspected, as calculi, which have been removed in the usual way, after castration had failed to make any improvement. It is applicable to more cases than castration.

There are several methods of enucleation ; (1) the suprapubic, (2) perineal, and (3) combined.

These may require the

- (1) Incision of the urethra vesical walls,
- (2) Excision of the post $\frac{1}{3}$ of the lower isthmus,
- (3) Enucleation of the whole gland.

The operation performed by Dr. Gunn and myself is as follows, which has the advantages of being most direct, no injury to the bladder, a small incision and no hemorrhage, excellent drainage and comparatively little shock.

The operation.—The patient is placed in the extra lithotomy position, the middle finger of the left hand is placed in the rectum and pressed against the urethra at the membranous portion. An incision is made in the median line through the raphe to apex of prostate. The capsule is opened and kept open with retractors, which forces the gland forwards. The organ is then pulled out with the fingers and removed piece by piece with a gouge, similar to that used in post nasal growths. Remove the entire prostate in this manner, insert a drainage tube, covered with gauze, for three or four days, after that keep parts perfectly clean.

A long tube may be attached to the drainage tube. A few stitches may be put into the wound to prevent the drainage tube from coming out.

The results have been excellent, and within three weeks the patients are walking around and say they are as well as ever.



SIR JAMES PAGET.

THE SKILL OF A PAGET.

By H. S. HUTCHISON, M.B.,
Toronto General Hospital.

IN the following words Mr. Gilbert, the humorist, makes reference to a London character of the last half century: "The skill of a Paget about to trepan."

His skill—it is this which brings a great man before the eyes of the world. We look on it and marvel. In the looking, however, how seldom can actual help be gained by those who need it in the mapping out of a career. For the acquiring of skill, with its obstacles, bitterness, and calls for endurance, and the satisfaction of properly using skill when obtained, are matters but seldom committed to the world in sufficient exactness to be of material assistance. Then again biography in a general discussion of problems in which its hero was engaged, does not often paint a completely satisfactory personal picture.

In medicine we are to a great extent denied even this knowledge. For

though high, amongst Britain's grand sons, is the place held by her great medical men, we have but scant records of their lives.

It is extremely satisfactory to be able at least by means of a recent charming publication* to trace, step by step, the battle of a boy who settled in great London with no advantages but the gift of a medical education from his people and a resolute ambition from Providence, and who rose to such heights that his memoirs have been dedicated by willing permission to the Queen of his country, Her Most Gracious Majesty Alexandra.

James Paget began his hospital studies in the year eighteen hundred and thirty-four. It may be considered that the history of the struggle of a young medical man of so long ago can hardly be of use as an example at the present day. Moreover in reading the life of a great man we are often speedily discouraged from expecting to derive therefrom any benefit but pleasure, by reason of the occurrence, during the early part of that life, of definite bursts of genius. In the first place, however, hospitals and schools were nearly as numerous, competition was quite as keen, and, on the whole, existing relations were much the same as at the present day. In the second place, at no period during the life of this character, from beginning to end, does genius shew itself, to account for success in any other way than by continual and laborious work.

The course at college was influenced by several circumstances. In the first place, there appears on looking back through such length of time a difficulty which touches at once a warmly sympathetic chord in the heart of the present medical student—his means were scanty. In the second place through the previous success of his elder brother, he was introduced into a circle of educated and industrious men, somewhat older and more advanced in study than himself. Under these undoubted stimuli and having for several reasons on his hands the time which others were spending in social pursuits, James Paget took a high stand on his examination and, learnt what he calls the priceless power of being able to read German.

It was during these student days that there came before his observation certain small specks in the muscles of subjects in the dissecting-room. Others including many of the professors, had seen these, but Paget, with his love for and training in botany "looked at" them. He found a little worm inside the little apts, and though he did not at the time obtain the credit, to him was due the discovery of what Professor Owen named the *Trichina Spiralis*.

On the whole the undergraduate days were ones of a fair, but not

* "Memoirs and letters of Sir James Paget," by one of his sons; London, 1901, Longmans, Green & Co.

too great, amount of work for young Paget, who endeavoured to appear as idle as the rest, and was well liked by his fellows. On graduating he continued to walk in the paths of the conventional medical student—he became engaged to be married.

And now began life's problem. Was he to settle in London or elsewhere? From a financial standpoint not even a bare living was assured in London. No more help need be expected from home, and indeed it was becoming apparent that assistance might have to be given. Certainly other positions, such as the services, and that of assistant to practitioners in smaller places, must have given much greater inducements, including a possibility of soon bringing to its climax his *affaire du coeur*.

From other standpoints, London was assuredly the interesting centre of medicine and the place for ambition. But under such circumstances the ordinary pleasures of young life would be absolutely impossible. He summed up the whole question in writing to his brother that he had to choose between a life of moderate pleasure throughout in some small place, or one in London of very little pleasure for the first twenty years and a great deal for the next twenty.

The decision was finally made in favor of the large place, and nothing can be more interesting than the history of that ever trustful struggle through the years of patient drudgery that followed, and the final coming to looked-for success, bringing with it, as it did, full measure of happiness. Never could better example be found of the worth of Benjamin Franklin's good old maxim, "Stay with the shop and the shop will stay with you." Never could better interpretation be found of the feelings of the clever nurse exclaiming, "Oh! to be a man with the possibilities! the possibilities!"

For seven long years after graduation, the barest living was made by writing and by translating (from French, German, Italian and Dutch!) for the magazines. The position of curator to the museum of the hospital was given to him, meaning that in addition to work at times menial, during these seven years not one hospital case was seen until it came to the dead-house. And this for a man who intended to be a practical surgeon! Several times in these years were disappointments, great and bitter enough to cause utter despair of success in London, met always courageously. Once, for instance, a promotion sufficient to warrant marriage and fair prosperity, was given, and then actually taken away again. A professional plate on his door brought to the young surgeon during these seven years practice to the extent of four hundred and eighty dollars!

At last promotion began to come, and in the establishment of a collegiate system of residence for the students of St. Bartholemew's (a num-

ber of ordinary dwellings being obtained and overhauled, and a common dining-room being arranged), Mr. Paget was made Warden. The duties consisted of being a sort of registrar and general advisor, and in maintaining a certain amount of discipline, such as breaking up noisy late parties, and seeing that no one was spending time in absolute dissipation. Bitter complaints had been made previously by medical men that their sons had come up to London and gone completely to ruin entirely unobserved by college authorities. It is interesting to note that this scheme proved to be a great success.

During these years the lectureship in physiology and pathology was held by the Warden, and later, after a keen contest, the position of assistant surgeon to the hospital. Much attention had always been devoted by him to pathology, special use being made of the microscope, an instrument at the time but little understood. So assiduously did he work at it that at the close of eight years of residence in college, it was said of him by an eminent scientist that he had his choice, to be the foremost physiologist and pathologist in Europe or to have the largest surgical practice in London.

Honors began to flow in, and at last after sixteen years of post-graduate work it was decided that for the sake of the fairly large family, private practice must be entered upon.

Paget had now been married for eight years, and during this time had lived a life of toil indeed, his home life being of the simplest, and the only social life he had. It is remarkable to think a life of such austerity possible to a man whose heart was as tender to all suffering as a woman's, whose sympathy with the pleasures of life, such as music, art and literature was of the keenest, and whose physical strength had more than once been taxed by severe pneumonia.

And now what were the rewards for such long years of waiting? In the first place there was the great satisfaction of having the largest number of, and the most difficult surgical cases of any man in London. The honor always paid to him, as being one of the world's best surgeons, was a constant source of real pleasure.

Travel was now possible at regular intervals, and the letters to friends describing the keen enjoyment of father and family, exploring together new scenes, all day long, present a picture of perfect human happiness.

His sincere love of his profession made him the object of friendship and admiration of the greatest minds of Europe. Thus, outside of science, he had the greatest enjoyment from associations with George Eliot, whose gold watch chain he wore and who always sent him the first

copy of a new work, Tennyson, Browning, Gladstone, Newman, Lowell ; and amongst scientists he loved dearly to engage in expert talk with his contemporaries Virchow, Pasteur, Rokitansky, Darwin, Ruskin, Tyndall, Huxley and others, to nearly all of whom his knowledge was of service.

He was early made surgeon-extraordinary to Her Majesty Queen Victoria, and for the rest of his life enjoyed the friendship and respect of the Royal Family. Her Majesty conferred on him a Knighthood

The zenith of his fame may be said to have been reached in the year eighty-one, when, as president of the most successful medical congress ever held till that time, having on one hand the Prince of Wales, and on the other the Crown Prince of Germany, he delivered, in three different tongues, a most beautiful and masterly oration to three thousand medical men from all quarters of the globe. On the same day he entertained in his own house the Royal guests, and many of the great minds of Europe.

A grander approach to old age can never be found. Hand-in-hand with the loving wife of his youth, and surrounded by a family whose admiration and affections had remained undisturbed by the heavy hand of death, he proceeded to fourscore years, doing almost to the last a hard day's work, receiving honors on every hand, until finally, the limit of human possibility being reached, he closed his eyes, and a great man worthily returned to his Maker.

THE NEW MEDICAL BUILDING OF THE UNIVERSITY OF TORONTO.

J. J. MACKENZIE, B. A., M. B.

BEFORE the close of the present month, it is expected that the ground will be broken for the new medical building of the University of Toronto which is to be erected in the neighborhood of the present Biological Department.

For many years past, the work of the final years in the University Medical Faculty has been carried on in the old building on the corner of Gerrard and Sackville Streets, formerly occupied by the Toronto School of Medicine, which has been rented by the University from the Toronto School Corporation.

The remarkable growth in numbers of students during the past three or four years has rendered it imperative that arrangements should be made to accommodate growing classes and with this end in view, the medical faculty began over a year ago to discuss the advisability of erecting a new building nearer to the University itself.

At the same time the growth of the classes in the Biological Building made it necessary that expansion for the arts department of Physiology should be thought of and the University Trustees decided to consider the question of providing for both needs in the same building.

After mature consideration by all the bodies interested, and after consultation with the Government, a scheme was proposed for a building to cost about \$125,000, and Messrs Darling and Pearson were retained as architects.

The site set apart by the University Trustees was the piece of land between the Library and the west wing of the Biological Department, now occupied by a small brick dwelling, there being ample space there, for a large building, yet leaving plenty of room for expansion of the present Library Building when that shall become necessary.

The planning of such a building necessitates very careful consideration of all the problems involved, for not only must it be fitted for the purposes of medical and physiological teaching, but occupying as it will a prominent position facing the campus, the architectural features had to be carefully thought out.

The plans and specifications are now complete and Messrs. Darling and Pearson may be congratulated on meeting their problem effectively, first by a ground plan which leaves nothing to be desired from the standpoint of convenience and efficiency, and, second, by an elevation which will be a decided ornament to the lawn.

The plan proposed is simple, the laboratories are arranged upon what has been called the unit system, that is a unit laboratory is 23 feet deep and 30 feet in width lighted by two large windows. Each unit will accommodate twenty four students with necessary desk room and sinks. The inter unit partitions may be removed at any time or the units may be divided if necessary so that variations in the size of classes may be readily arranged.

The main portion of the building faces the lawn and two short wings run easterly from the ends into the ravine.

The building is three storeys high; the southern wing being reserved for Physiology, the main building and north wing for medical work.

Flanking the structure are two lecture rooms, lighted from above the larger one on the north side seating 350 students.

In front the ground floor is devoted to Faculty rooms, Library, etc., and at the back of the Pathological Museum. In the two upper storeys of the main building and north wing are situated the laboratories of Pathology and Bacteriology.

By the extension of the wings into the ravine an additional storey is obtained in each and in the north one will be situated a large museum of Hygiene, for the equipment of which the Faculty are now making provision.

A number of small rooms in different parts of the building have been set aside for the accommodation of special research students.

The ventilation is to be of the most modern type and between the lecture rooms and main building will be two towers into which all the ventilating shafts will open.

These ventilating towers with the solid masonry of the lecture rooms have been used to good purpose by the architects to balance the somewhat large extent of glass which is necessary to light the units. The result is a handsome facade facing the lawn.

Brick is to be largely used in the construction but as much stone as possible will be introduced on the west side and the colour selected harmonizes with that of the Library and Biological Buildings.

It is somewhat difficult to convey in print an adequate idea of all of the features of the plan, but the building committee and the University Trustees are thoroughly satisfied with it and it is expected that when finished there will be few buildings on the continent so well adapted for the purposes for which it has been designed.

THE HAEMOPHILIC ARTHROPATHIES.*

By M. P. PIOLLET, Interne of the Lyons Hospitals.

THE above mentioned article gives a most comprehensive and interesting review of this very important subject. On account of the limitations of space, the translator is obliged to omit parts of the article dealing with the history and pathogeny of the subject, selecting only those divisions that are of direct practical value.

The malady, ordinarily hereditary and occurring in members of the same family, which is known by the term haemophilia, or bleeder disease, is characterized by three orders of symptoms, viz, external haemorrhages, either spontaneous or provoked by insignificant traumatism; interstitial haemorrhages, ecchymoses and haematomata, and thirdly by special articular troubles, which are characteristic enough to merit a detailed description.

ETIOLOGY. In the etiology of haemophilia in general there are two noticeable features, the geographical distribution is almost entirely confined to the northern races, out of 252 cases analyzed 106 were in Germany and 58 in England, and in the second place it is generally to be found among the members of certain families, with a peculiar heredity that has been summarized in the following law: a woman of a haemophilic family, even if she is not herself affected, transmits it to her children, but a man of the haemophilic tendency does not transmit it to his descendants even though a sufferer himself; it also generally appears in the males of the tainted families.

The etiology of the arthropathies themselves, is in a similar manner dominated by a primordial idea, that of sex; it is the male sex which is practically always affected. If one finds in haemophilic families some females which present manifestations of the diathesis (one female to thirteen males according to Grandidier) this is practically never in the form of an arthropathy, one case only being reported. On the contrary any haemophilic male may be attacked.

The age at which these lesions appear is almost always the same, during the first fifteen years of life the first attack appears, hardly ever in the first year, but rarely before two years, and very commonly between four and six.

Other causes are suggested, *e. g.*, cold, and the majority of attacks are in the spring and fall; traumatism, too, is mentioned as a disposing factor, and while the history in some cases may give support to this belief,

*Translated from the original article in the "Gazette des Hospitaux," April 5th, 1902, by A. J. Mackenzie, B.A., M.B.

yet many attacks occur when the patient may be immobilised in bed. The joint most frequently attacked is the knee, in almost half the cases examined; then the elbow in about a fourth of the cases, and next in frequency the ankle. Rarely but one joint is attacked; when it is the knee, generally several are effected.

SYMPTOMATOLOGY. Koenig has divided the study of the articular signs of haemophilia into three periods, viz.: first period, articular enlargement; second, chronic arthritis; third, definite deformity; and this division should be maintained.

First period, Haemarthrosis. It is almost always, as we have seen in the case of a young child, in the knee that the trouble appears. Suddenly, apparently without reason, the joint becomes tumified, and so painful as to prevent the patient either moving it or placing his weight upon it. If it is examined at this time the joint is found to be filled with an abundant effusion, the synovia is distended to a maximum, all the cul-de-sacs are full, and the member is in a position of semi-flexion. The patellar impact is prevented, the palpation of the joint is painful, but does not reveal any especially tender spot. If one attempts to move the joint, one will find that the pain will set a definite limit to the excursion of the limb, and if the patient be old enough to explain his sensations he will complain of a sensation of tension, increasing at night, preventing sleep, and causing the child to cry out. Finally, the chief sign is the withdrawal of blood almost pure if an exploratory puncture is practised.

Some other signs should be mentioned. There are no true signs of inflammation, the skin is stretched and glistening, but is not red, hot, nor oedematous. One can at times delineate the base of the synovia and after a few days there may be found an ecchymosis extending to that point, at other times one may find punctiform ecchymosis. It is rare that one finds crepitation. Some authorities have described an accompanying rise of temperature, due probably to re-absorption of the blood, but others do not note this symptom.

The duration of the attack is short; the symptoms end suddenly, the haemarthrosis reaches its maximum in a few hours, the tension remains unchanged twenty-four or forty-eight hours, then little by little the effusion diminishes, fluctuation may be felt in the joint, the pain disappears, and the articulation returns little by little to its normal state. But what is the more remarkable is the frequent repetition and the great number of successive attacks. Not only are different articulations attacked, but the same joint may be attacked in succession as often as 31 times in ten years in one reported case. The first attack may leave the joint in quite a normal condition, but one cannot say that this is the rule, for others reach the second condition after a fewer number of attacks.

Second period, Arthritis. This second phase of the malady is characterised by chronic inflammation of the articular tissues. Under the influence of successive haemarthroses, the peri-articular fibrous tissues react, the synovial membrane becomes thickened, and roughened. At the same time resolution is incomplete between the attacks, and one finds constantly in the joint, a small quantity of liquid non-absorbed. The adjacent muscles are affected and become atrophied. At the knee this is particularly the case, there is an augmentation of the size of the joint, with disappearance of the normal hollows, with a considerable atrophy of the thigh; in fact all the signs that recall tuberculous hydarthrosis, but the functional signs are much less marked. There is spontaneous pains, but it is difficult to find tender points, though the patient may limp, he can nevertheless lean his weight on the affected limb; the amplitude of the movements is diminished, being at the knee from a right angle in flexion to 120 degrees in extension. The symptoms are the same in other joints, but in the hip and shoulder the examination is often inconclusive a little limitation of movement with some crepitus, without much pain, and some muscular atrophy complete the clinical picture.

This period of chronic arthritis is marked by frequent acute attacks, with all the accompaniment of pain, intersynovial effusion, with the irregularity of appearance; after each attack there is a slight increase in impotence, until the articulation finally reaches the third stage of definite deformity.

Third period, Deformity. The articulation passes insensibly from the preceding condition to this. Slowly the fibrous tissue proliferates, surrounding the joint with a sheath, while the muscles atrophy. This produces an ankylosis, often in a vicious position, and the knee is the place where this ankylosis most frequently appears. It may be so firm as to suggest an ossification, while others have described a form of out-growth mistaken for an osteophyte, which has some influence in producing the ankylosis, but investigation will show that these excrescences are fibrous not osseous.

PATHOLOGICAL ANATOMY. During the first period, puncture will show an effusion of blackish blood, with some clots; the ligaments are distended, the synovia injected, and hyperaemic, and covered in places with clots. In the later stage the blood in the joint coagulates, the fibrinous part is deposited on the synovial membrane chiefly in the cul-de-sacs, and the serum, more or less tinged remains in the centre. If there is no new haemorrhage, these conditions may be to some extent dissipated leaving only slight thickening, staining and fibrous deposit. On the contrary, if there is a succession of attacks, we find a synovia thickened, resistant, and covered on its internal face with a brown

fibrinous stratum, in which one sees some vascular tufts. There are no osseous lesions, and radiography shows at this period, but little diminution of the inter-osseous space, with at times, an opacity produced by the thickening of the synovia.

In the period of deformity the lesions are more marked. The cartilages are destroyed in great part, the capsule is thickened and hardened, the articular cavity is filled with fibrinous deposits more or less adherent, and there is a marked atrophy of the osseous extremities. Radiography shows the bone porous, lessened in volume, and separated by a space more opaque than normal. We find, too, articular deformities characterized by a displacement of the osseous extremities, either merely a simple vicious position in flexion or in extension, or even subluxation more or less complete. The ankylosis which is always fibrous is produced by the thickened capsule and by the peri-articular muscles atrophied and affected by fibrosis.

DIAGNOSIS. The diagnosis will not be difficult in cases where the diathesis is known, or if other characteristic lesions are to be found. The conditions with which it may be most readily confounded are scurvy, the pseudo-rheumatic infectious diseases characterized by purpura, barlow's disease and the nervous and syphilitic arthropathies. The prognosis of haemophilia itself is bad, 60 per cent. dying before the age of eight years, but curiously enough in those cases in which the manifestation is arthritis the outlook is a little better.

Treatment. Above all there is a negative indication "do not operate"; four out of five cases will die if submitted to operative procedure. At the time of haemarthrosis the indications are immobilization with gentle compression, and the application of ice, with such general treatment as may seem suitable.

When the tension begins to diminish, it has been suggested to use a puncture to remove the remaining fluid to prevent if possible the deposit of fibrin, but the dangers associated even with this forbid its general use. A maintenance of the treatment already suggested will be found the wisest procedure. Massage is to be avoided on account of the ecchymoses that follow its use.

When ankylosis has supervened, if it is in a favorable position it should be left undisturbed; if the position is vicious, then the treatment will depend to some extent on the age of the patient. If still young no sudden or violent force should be used, but a slow and continuous extension may be applied; if the patient is of such an age that it is thought that the danger of haemorrhage is lessened, then more vigorous methods may be resorted to, but it must not be forgotten that such may still set up the old symptoms, or be followed by the formation of haematomata.

MARITIME TOPICS AND NEWS.

Conducted by W. D. FORREST, M.D., Can., L.R. C.P. Lond., M. R. C. S. Eng., B.Sc. Halifax.

THE Halifax Branch of the British Medical Association held its last meeting for the season on the evening of April 23rd. A very interesting paper on the treatment of acute rheumatism was read by Dr. N. F. Cunningham of Dartmouth. Considerable discussion then arose among the members as to the use of the salicylates when cardiac complications supervene. The consensus of opinion seemed to be that they should be continued. Fifteen to twenty grain doses were recommended, from the commencement of the disease, every four hours until the symptoms abate, after which they may be given in smaller doses and at longer intervals, and continued until a week or so after the temperature has been normal. Cardiac weakness need not prohibit their use, unless extreme; but Dr. Cunningham urged the advisability of diminishing the dose when this occurred.

Dr. R. Evalt Mathers then reported a case of primary tuberculosis of the larynx, which he saw in consultation with several other physicians. The onset was sudden. The patient complained of severe sore throat. On examination the uvula was found enlarged and oedematous, and the pillars of the fauces inflamed. On the left aryepiglottic fold was an oedematous swelling. This shortly broke down and formed an ulcer. Greyish patches then appeared on the uvula and anterior pillars, which also broke down in time. There was an evening rise of temperature, sometimes going to 103° F.—pulse rapid. Examination of the sputum revealed the presence of tubercle bacilli in abundance. Nothing whatever was noted in the chest until one week before death. Death was due to exhaustion, owing to inability to take food, and occurred eleven weeks after onset of the disease. Dr. D. A. Campbell suggested that the primary lesion may have been in some organ other than the lung. No autopsy having been made, this question could not be answered.

The meeting then adjourned to meet again in October, when officers etc. will be appointed for the ensuing year.

As a result of the recent competitive examination held at the Victoria General Hospital, J. Ross Millar, M.A. M.D. C.M. was appointed senior House Surgeon, for the ensuing year. L. E. Borden, B.A., M.D. C.M., D. G. Campbell, M.D. C.M., J. R. Corston, B.A. M.D. C.M. and D. T.

Watson, M.D. C.M., also received appointments on the intern staff. These gentlemen entered upon their duties May 1st.

At the convocation of Dalhousie University, held on April 28th, twenty candidates received the degree of M.D. C.M. Among this number was a young lady—Miss Martha Philp of Halifax. The gold medal, awarded for general proficiency in the third and fourth year subjects, was won by Mr. Silas Fulton of Truro. It is noteworthy that many of these graduates also hold degrees in Arts, while others have attended the classes of that department for one or more sessions. This certainly augurs well for the profession in the Maritime Provinces.

The Maritime Medical Association meets this year in Charlottetown, on July 9th and 10th. The president of the Association is Dr. F. P. Taylor of Charlottetown, the local secretary, Dr. F. R. Jenkins, Charlottetown, and the general secretary, Dr. George M. Campbell, Halifax.

Dr. G. Close Van Wart of Fredericton, will read a paper entitled "A Plea for surgical treatment of Appendicitis." Dr. Geikie of Toronto will open "a talk on therapeutics," while Dr. Houston of Souris will report on cases of Bulbar Paralysis and osteomyelitis. Besides these there will be a general discussion on "Medical Ethics," opened by Dr. McNeil of Charlottetown, reports on cases of cancer of the uterus by Dr. Murphy of Halifax, together with a discussion on the etiology of cancer, by Dr. Halliday of Halifax. Judging from what we have heard, the meeting will be largely attended by the medical men of the lower provinces.

PROVINCE OF QUEBEC NEWS.

Conducted by MALCOLM MACKAY, B.A., M.D.

The eighth regular meeting of the Montreal Medical Society was held on April 18th. Dr. Shepherd showed a case of apparent cure of Sarcoma. The patient came under his care early in the Summer of 1901 with a large tumor on the right side of the neck. This he opened and removed as far as possible, although he made no attempt to completely dissect away the growth, it being intimately associated with the great vessels of the neck. The tumor had the clinical history of sarcoma and on microscopical examination the diagnosis was confirmed. In a few weeks the patient returned with the growth as large as ever, and it was again removed with the same result, the patient returning with a similar condition. For a third time the operation was performed and the diagnosis again verified microscopically. Nothing further was seen of the patient until recently, when she came under Dr. Shepherd's care for an entirely different disease. There was then no sign of her former trouble except a scar on the right side of the neck perfectly free from induration. In the discussion which followed the examination of the case, Dr. Shepherd referred to another apparently spontaneous of Sarcoma which came under his observation some fifteen years ago. After the second operation the growth disappeared and the man is at present alive.

Dr. Anderson showed a pathological specimen of vesical culculus, also two cases of carcinoma of the stomach. The latter were particularly interesting because they were obtained from male twins aet 38. Each had a history of dyspepsia and they died within a year of one another.

Dr. Shirres then read a paper on spinal localization in connection with spinal fracture. The case was that of a man who after falling down an elevator shaft received a blow on the back with a packing case. He had almost complete paralysis from the neck downwards, the upper extremities showed slight power in movements at the elbow and shoulder. Sensation to touch was present throughout, although sensation to heat cold and pain were absent in the lower part of the body. There was an incomplete band sensation about the region of the clavicles. Knee jerks were absent but Babinski's sign was present. It was considered that the probable lesion was a hæmato-myelia about the sixth or seventh cervical segments, but that possibly the symptoms were due to pressure on the cord. Laminectomy was performed and it was found that the la-

minae of the sixth cervical vertebra were fractured and that there was no pressure about or below the seat of fracture.

The patient died on the eleventh day and the post mortem revealed the fact that a haemorrhage had occurred in the grey matter at the seat of the injury, and that it extended through the sixth and seventh segments.

At the following meeting of the Society, held on May 2nd, Dr. Shepherd drew attention to a case of leprosy which had been in the Montreal General Hospital for some weeks. The patient, who was in an early stage of the disease, had a squamous eruption on the forehead and on various parts of the body. Anæsthetic areas were found in the middle of some of the squamous patches and the nature of the disease was at once suspected. Further examination showed that the ulnar nerves were enlarged, and, on cutting down, the lepra bacillus was found in the nerve sheath. Dr. Shepherd then brought forward a living case of recovery from typhoid perforation after operation. He wished to show this case on account of some recent articles which stated that there was but one case on record in Canada. The patient was operated on in May, 1901, during the second week of fever and twelve hours after perforation. She made a good recovery, although there is at present a hernia at the seat of incision which is easily controlled by a truss.

The second case was that of a man who was operated on two hours after perforation. The temperature remained in the vicinity of 104° for two weeks, but the patient recovered perfectly. The third was a case of ambulatory typhoid operated on ten hours after perforation. The abdomen contained a quantity of pus but the patient made an interrupted recovery. Dr. Shepherd advocated the use of the incision commonly used in appendix operations, because the ileum could be found immediately and the perforation easily located.

Dr. Maud Abbott showed two pathological specimens, the first an aneurism of the innominate artery, the second a case of an anencephalus monster. Skiagraphs of the latter were passed round and the specimen compared with one which has been carefully described by Dr. Ballantine, the resemblance between the two being very striking.

The meeting adjourned after a lantern demonstration of various forms of skin lesions by Dr. Shepherd.

Apart from notices appearing in French Canadian medical journals, very little attention has been paid to a very important meeting of the French speaking members of our profession which was held recently in Montreal. This meeting had for its object the formation of an associa-

tion consisting of all the doctors in North America speaking the French language. Prof. Brochu was elected president, and in his address he pointed out the necessity for such an organization, the chief object being the reading and discussion of papers on medical subjects. Not only would there be a new stimulus given to such work, but the numerous independent societies throughout the country would be in a measure united.

Prof. Foucher stated that the majority of the French profession hesitated to take an active part at an English meeting, not on account of want of knowledge of the subjects under discussion, but on account of hesitation in using any language but their own, when literal accuracy was essential to perfect demonstration of any scientific fact. With a large society where French alone would be used this difficulty would be overcome, and he called upon all his *confreres* to support and promote the welfare of the association in every way possible.

The speeches were received with enthusiasm by the large number of medical men present, and if one may judge by the first meeting the association will prove a great success.

The following gentlemen were elected to office :

1° Présidents d'honneur :

MM. les professeurs ROTTOT, *doyen de l'Université Laval de Montréal* ;
SIMARD, *senior, doyen de l'Université Laval de Québec* ;
CRAIK, *ex-doyen de l'Université McGill* ;
CAMPBELL, *doyen de l'Université Bishop*.

2° Président général :

M. le professeur BROCHU, de Québec.

3° Vice-présidents :

M. le professeur E. P. LACHAPELLE, de Montréal ,
M. le docteur COYTEUX-PRÉVOST, d'Ottawa ;
M. le docteur ARCHAMBAULT, de Cohoes, E.U.

4° Secrétaires-généraux :

(a) M. le docteur SIMARD, junior, de Québec ;
(b) M. le docteur LESAGE, de Montréal.

5° Trésoriers :

(a) M. le docteur MAROIS, de Québec ;
(b) M. le docteur CLÉROUX, de Montréal.

Work on the extension of the Hotel Dieu, Montreal, will be commenced immediately. The new building, which is to face St. Urban St., is to be of the same height as the old one ; and, while having the most modern improvements, will be in keeping with the rest of the hospital. It will contain a new operating-room, and two special rooms for X ray

machines, also large dispensaries, the remainder being reserved for private wards for which there has been a great demand for a number of years. The various departments will be furnished with every convenience in the way of apparatus and special instruments. This addition will be much appreciated by the students of Laval University, for it will both facilitate their practical work and increase their clinical material. The Sisters have not yet decided to build a ward for contagious diseases; but, should they do so, it will be placed to the west of the present community building on the Park Ave. side.

At the annual convocation of the medical faculty of Bishop's College, the following gentlemen received the degree of M.D.C.M. : C. M. Cass, D. K. H. Cowley, E. G. Gale, J. MacGregor, W. H. Still, C. W. Smith, W. F. Roach. James MacGregor won the gold medal, J. J. McGovern the silver medal and C. M. Cass the chancellor's prize. The report showed that the attendance was much the same as last year, and that there had been numerous additions to the teaching staff.

A banquet, unique in many ways was given on May 7th, by the medical profession of Montreal, to Drs. Rottot, MacCallum and Sir William Hingston, who have completed fifty years of active practice in their profession. A more perfect representation of the medical talent of the city could hardly have been chosen. Dr. Rottot, Dean of Laval University, and Dr. MacCallum, emeritus professor of McGill, represented the French and English elements, while Sir William Hingston formed the connecting link, for although Irish by birth he has practiced largely among the French, and is identified with a French Hospital and a French College. This most happy union of race and language was the key-note of the proceedings during the whole evening; speeches, songs, and toasts, being given in both languages.

The committee in charge, completed the arrangements in a most satisfactory manner, and the dinner was in every particular a complete success. The decorations were tasteful, and the menu, on which were reproduced photographs of the guests, were exceedingly appropriate.

After the health of the King had been drunk, the chairman, Dr. Campbell, proposed the toast of the evening; 'Our guests'. He remembered a similar occasion but twice before in fifty years, when the two men they honoured were Dr. George W. Campbell, late Dean of McGill, and Dr. d'Odsenuens, late dean of the Victoria College. The gentlemen in whose honour the banquet had been prepared had done much for the city and much for medical education. Dr. Rottot had graduated at

Montreal College in 1847, and had been Dean of Laval for years. Dr. MacCallum graduated at McGill in 1850, and had occupied the chair of obstetrics in that institution until he retired. Sir William Hingston graduated in 1851, and was professor of Clinical Surgery in Laval, while, as a public man, he had been Mayor of Montreal, and was at present a Senator.

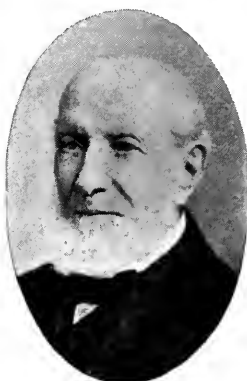
Dr. Lachapelle stated that the celebration of the professional golden wedding of three deans of the profession, was a unique one and was all the more delightful, because the Doctors of both races and both languages were meeting in friendly intercourse.

The toast was received with the greatest enthusiasm and Dr. Rottot briefly replied, thanking them for the honour of the banquet, and said how much he appreciated the compliment.

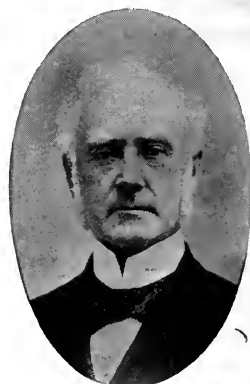
Dr. MacCallum dwelt upon the enormous difference half a century had made to Canada, and mentioned the political and social changes which



DR. ROTTOT.



DR. MACCALLUM.



SIR WM. HINGSTON.

had occurred during that time. He was glad to see the members of the two races to whom the fortunes of Quebec were entrusted meet together in friendly and sociable intercourse.

Sir William Hingston thanked all present for his reception in "the language of our first colonists in Canada," and then referred in English to the gathering of the profession to congratulate him upon the honour her late Majesty had conferred on him. He was glad to meet round one board men of all nationalities and all religions and urged them to meet one another in friendly intercourse, and to converse in each others language.

Dr. Girdwood also proposed the health of the chairman, who suitably replied. The speeches were interspersed with songs by Drs. Lauterman, Craig, Desrosiers, and Mr. E. Lebel.

MILITARY MEDICAL TOPICS AND NEWS.

Conducted by Lt.-Col. Nattress, P.M.O. M.D. No. 2.

RECRUITING.

THE enlisting of another contingent for South Africa has occupied the attention of the Military authorities for the past two weeks. This time 2,000 men are being sent, and recruiting has been general throughout the Dominion. The physical conditions, called for this time, vary a little from preceding regulations. Age 20 to 40 years; height, not under 5 feet 4, nor over 5 feet 11 inches; weight, not more than 180 pounds, and chest measurement, not less than 34 inches.

Besides those of the Permanent Force who were taken on this time, I examined at the Armouries 299 men; out of this large number for one Depot, only 164 passed as medically fit. It has been suggested that the material presenting was not up to the standard of three years ago, but this was not the case. The regulations called for a more rigid examination, and the selection of those only who were entirely free from any physical disability.

The examination of a young man, for active service, differs widely from his examination for life assurance, or that of his family physician for existing ailments. In the above batch of 299, probably not more than 6 to 8% would be rejected by any life company, nor would the remainder of those rejected be regarded even as impaired lives. There are many disabilities, which render a man unfit for active service, that do not bear at all upon his longevity in ordinary civilian life. Many of these disabilities are trifling, so far as the man's physical condition and general health are concerned; but not so trifling, when taken into consideration with the work he may have to perform, or the hardships he may be called upon to endure—exposure, hunger, coarse food, toilsome marches, or long weary hours in the saddle, hard-riding, patrols, out post duties, etc.

The following is a list of those marked "unfit" roughly classified regionally.

HEAD AND NECK	31
(a) Sight imperfect.....	13
(b) Teeth "	15
(c) Voice (stammerers)	2
(d) Sore Throat (syphilitic)	1

UPPER EXTREMITIES	2
(a) Undeveloped left arm (Infantile paralysis)	1
(b) Thickened Knuckles (Rheumatism)	1
THORAX	26
(a) Chest (Too narrow and deformed)	18
(b) Heart (Valvular lesions)	8
ABDOMEN	5
(a) Herniae	3
(b) Appendicitis { Attack 2 months ago	1
{ Operated within a year	1
GENITO-URINARY REGION	37
(a) Varicocele	30
(b) Hydrocele	3
(c) Phimosis	1
(d) Undeveloped testicle and scrotum	1
(e) Undescended testicle	1
(f) Hypospadias and varicocele	1
TRUNK	2
(a) Exaggerated Lateral Curvature	2
LOWER EXTREMITIES	25
(a) Flat-footed	10
(b) Overlapping toes	8
(c) Hammer toe	5
(d) Knock-kneed	1
(e) Varicose veins of legs	1
HEIGHT	7
(a) Under regulation height	6
(b) Over " "	1
Total	135

The eyes are tested with the "dot card"—first the right eye and then the left. So far as could be revealed by this test, the defect was chiefly due to astigmatism, and seemed to be very much more common in the left eye than in the right.

The percentage of bad teeth, in the class of young men presenting, was high—much higher than one would expect at from 20 to 25 years of age.

Only two stammerers presented; and, indeed, I am not sure it was not the same one who presented himself a second time under another name.

That so many rejections appear under the subdivision *chest*, is not due to weak lungs, but inability to comply with regulations. It would seem that 34 in. normal chest is too much to expect in a young man 5 ft. 4 in. in height and only 20 years of age.

Less than one per cent. of hernia is not up to the public average.

Probably a large number of those afflicted know already it is a sufficient disability, and hence do not present themselves for examination.

In the whole of the human "make up," the region of the external genitals seems to be the most vulnerable, when put to the test *for active service*. Varicocele stands at the head of the list. It seems almost incredible that one out of every ten, in such a promiscuous list of young men, should be thus affected; but such was the case. Another noticeable feature was that, in every one of the 30 cases, there was a left varicocele. There were two or three right varicoceles but not without the same weakness being present on the left side. As to the etiology of this ailment, while exciting causes count for something, predisposition, due to anatomical condition, must be a far greater factor.

Congenital deformities of the sexual organs were not common with this batch. There was one case of phimosis; one of hypo-padias, the urethra being only about $\frac{1}{2}$ in. short; one case of undescended testicle, which was entirely out of reach; and one rather interesting case of an atrophied right testicle, quite soft and not larger than a small hazel nut, lying in the scrotum, the right half of which was so small and contracted as to resemble a right external labium. The condition presented to my mind the possibility of this testicle being retained in the canal, and not reaching the scrotum, until some years after birth or even puberty.

The two cases of lateral curvature were so marked that the deformity was noticeable, even *in mufti*.

It was not a foot-parade *solely*, but many were turned away on account of their feet. Ten were so flat-footed that they could not be accepted; and, I fear, felt that they received a corresponding "turn-down." Eight others were rejected because of overlapping toes, and five more owing to the presence of a condition known as "hammer toe."

SALE OF INTOXICANTS IN MILITARY CANTEENS.

THE authorities have always endeavored to restrict as far as possible the sale and use of intoxicating liquors in Military Camps of Instruction, but nevertheless "camp rumors" reach the general public from time to time.

If we may be permitted to remark the views of the G. O. C. on this subject as embodied in his Annual Report to the Minister of Militia are exceedingly well thought out, strong, forceful and to the point, and approach an explanation for these "camp rumors."

We are convinced that the Militia generally and the Medical Service in particular would be glad to see these views receive due consideration.

The General remarks:—"I would not on any account permit the sale of spirits in the canteens during annual drill, but I must here most strongly protest against a system that forces a soldier, if he needs a glass of beer, to resort to the saloons and drinking shops of the nearest town where there is no control over either the quality, nature or quantity of the liquor supplied to him. The effect of this regulation is to largely increase the amount of drunkenness in camp, and it is easy to show why this is so. In a military canteen all liquor has to be consumed on the premises, and, if proper supervision is exercised, no man should be served with more liquor than is good for him. But what happens under the existing system of prohibition? The man who would have been contented with his glass of ale or lager beer had he been able to procure it in camp, has to walk some distance to get his drink, probably takes whiskey instead of malt liquor, and very often returns to camp with a bottle of bad whiskey under his coat which he takes to his tent and proceeds to make his comrades intoxicated.

"I contend that it is a serious evil to drive our men into the temptation of the city liquor bars, rather than let them buy a glass of wholesome beer in their own camp, and I trust that this incentive to intemperance may be removed from the Militia Regulations."

PERSONALS.

The wound received by Lord Methuen is a compound fracture of the thigh in the middle third.

Lt. F. W. Marlow has obtained his L.R.C.P. and M.R.C.S., and has also passed his examination at the Volunteer Ambulance School of Instruction in London.

The Surgeons for the last contingent are:—Major C. E. Elliott, Quebec; Capt. D. M. Anderson, Toronto; Capt. L. R. Murray, Halifax; Capt. J. M. Jory, St. Catharines.

CURRENT MEDICAL LITERATURE.

Conducted by A. J. MacKENZIE, B.A., M.B.

FULL TERM PLACENTA WITHOUT A FOETUS.

AT the meeting of the "New York Post-Graduate Clinical Society" on March 7th, as reported in the "*Post-Graduate*," two cases were recorded of this rather rare condition; in the first a full-sized placenta was delivered accompanied by a form of an encysted foetus of about one month; in the other there was no foetus but a calcareous spot in the centre of the full-sized placenta.

THE INFLUENCE OF PHOSPHORUS ON ORGANIC SUBSTANCES IN PILLS.

FOR the determination of this influence (*British Medical Journal*, March 8th) an investigation was undertaken by W. H. Martindale, London, combinations of the common alkaloids with phosphorous in pill being used, with the ordinary bases. The examination after the interval of more than a month in all cases showed that there was no interaction or decomposition in this form of preparation, and that no considerable amount of oxidation of the metal had taken place.

SWALLOWING A METALLIC DENTURE, TREATED SUCCESSFULLY BY THE ADMINISTRATION OF COTTON WOOL.

IN the Medical Press, April 2nd, 1902 G. J. Johnston, of Dublin, reports a case in which a metallic denture, weighing ninety-five grains and measuring four centimetres by one and a half, was swallowed; severe pain and dyspnoea were at first experienced, but it was passed on to the stomach, where it caused less trouble. Dr. Johnston gave finely frayed cotton wool in the form of sandwiches with bread and butter; pain was experienced in the right iliac fossa, presumably when the foreign body was passing the ileo-caecal valve, but after the administration of a mild purgative the denture was passed on the eighth day from the time that it was swallowed, and it was found to be tightly wrapped with the cotton wool, forming, without doubt, a most efficient protective to the tissues with which it had come in contact. The X-rays had failed to

locate it, the writer suggests that the cause of this was that it had entered the small intestine at the time, and the constant peristaltic movement prevented it being seen.

THE TREATMENT OF VESICO-VAGINAL AND RECTO-VAGINAL FISTULÆ HIGH UP IN THE VAGINA.

IN The Bulletin of the Johns Hopkins Hospital for April, Howard A. Kelly has an article on the above subject, in which he advocates opening the peritoneal cavity widely from side to side, so as to free the bladder from its fixation at the vaginal vault and render it thoroughly mobile. By this means it becomes possible to displace the entire affected area downward to any extent required, exposing the part of the bladder that lies above the vaginal vault and contiguous to the fistula. The author refers in this to cases in which vaginal hysterectomy has been done, and the fistula is a result of the operation.

The knee-chest position is chosen, because the bladder readily becomes distended with air facilitating manipulation, while on opening the peritoneal cavity the viscera fall away toward the diaphragm, leaving the field of operation unencumbered. The vault is opened in the line of the transverse scar, and the incision carried widely from side to side, setting the bladder free, the margins of the fistula are split, and the vagina separated from the bladder, and the bladder is sewed up by a row of buried sutures of fine silk or cat-gut, uniting the muscularis alone, and turning in the vesical edges to form as it were a buttress. The vaginal surface is then united with a row of fine silk-worm gut sutures, being careful to leave no dead space between this row and the buried sutures. A little suturing at the corners, and a drain of iodoform gauze completes the operation. It is advisable to leave the catheter in place for seven to nine days following the repair.

THE RUSSELL METHOD.

IN a recent number of THE LANCET we mentioned the results obtained from the Russell method of treating pulmonary tuberculosis, among the poorer classes in New York city. From the report of the committee of inspection, published in the April number of the *Post-Graduate* we are able to quote the following outline of the method:

Each patient comes to the dispensary twice a day—in the morning any time between 7 and 9 o'clock, and in the evening between 7 and 8

o'clock. They are given the Russell emulsion of mixed fats at such times, they are also questioned and advised. Sunday morning they report at 9 o'clock when they are weighed and examined.

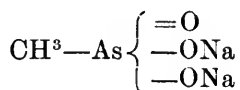
They are taught to sleep with their windows wide open; to eat all they can at each meal, to take a stated quantity of milk and eggs, to allow an interval of 5 hours between meals. The value and importance of cathartics is impressed upon them. They are taught to avoid over-clothing, to keep the feet dry and warm, to obtain nine hours sleep at night when possible, to avoid places of amusement. Alcohol, tea, coffee, and all unnecessary exercises are forbidden.

The beginning dose of emulsion is one half ounce, gradually increased until from two to four ounces are taken each evening. Castor oil is the main cathartic used. This is taken at first three times each week until the patient gets to full doses of emulsion and full general diet when a dose is given every day.

The rules are carried out with great strictness and patients are made to understand that they must obey. In case of disobedience they are at once dismissed. Any patient with uncomplicated pulmonary tuberculosis is accepted in any stage of the disease, who is able to come to the dispensary twice a day and to obtain suitable food. The most common complications which bar treatment by this plan are tuberculous laryngitis, old cases of emphysema on which tuberculosis has become engrafted, and cases in which repeated profuse hemorrhages take place.

HISTOGENOL.

THE "*Progrès Medical*," April 12th, has an article on an arsenic compound which has been given this name and on its application in the treatment of consumption. A short time ago Gautier and Mouneyrat made a report on the methyl-arsenate of soda, which has the following graphic formula:



and which while insomeric with the cacodylate of soda has the great advantage of being administerable either by mouth or hypodermically, and of lacking the disagreeable alliaceous odor and the irritative action of the latter.

Mouneyrat found that the methyl-arsenate had not the property of preventing the phosphaturia of the tuberculous, and so undertook to find

some means of supplying the body with this element. Seeking a form that would resemble the phosphorus found in the nuclei of the human leucocyte, he chose nucleinic acid prepared from the roe of fish, and associated this with the arsenic compound in the relation of 4 to 1. To this compound he has given the name of "Histogenol," and after using it since the first of August last in 120 cases of pulmonary tuberculosis, he believes he is justified in claiming for it remedial properties of a high order. Besides the amelioration of the ordinary symptoms and the disappearance of physical signs, which were marked, there was a noticeable decline in the phosphaturia and a well-marked tendency to the cicatrization of the lesions.

THE SUPPOSED INFECTIVITY OF DESQUAMMATION IN SCARLET FEVER.

THE Lancet, April 5th, has an article on this subject by C. Killick Millard, in which he questions the finding of the committee of the London Clinical Society, which in 1892 reported that the danger of infection was co-existent with, and by implication due to, desquamation. In view of the fact that infection sometimes appears after all visible desquamation has ceased, and that the disease is infective before this condition begins, the author of the paper wrote to 25 superintendents of fever hospitals for an expression of opinion, 21 sent replies, and of these 16 gave as their opinion (1) that they can adduce no evidence that desquamating epithelium is *per se* a source of infection; (2) they consider that too much importance has, in the past, been attached to desquamation as a source of infection; (3) their experience does not support the popular view that desquamation after scarlet fever is necessarily an indication that the patient is still infectious; (4) they believe that a patient may continue to desquamate for some time after he has ceased to be infectious; (5) they do not believe that it is necessary, in order to prevent the spread of infection, that patients that are otherwise ready to leave hospital, should be detained until every visible trace of desquamating epithelium has disappeared.

The author calls attention to the fact that he is merely trying to establish that the desquamation of scarlet fever is not infectious, *per se*, although it may convey the infection just as fomites; it does not contain in itself the infective organism in the same way that the scab of small-pox does. The eruption is an erythema—a process characteristic of a

chemical poisoning or of poisoning by the chemical products of microbic action, rather than the direct action of microbes themselves.

As bacteriological evidence is lacking, we must turn to clinical evidence for the support of our theory, and the writer believes that he is correct in the following conclusions: The desquamation is not necessarily infectious because of (1) the absence of evidence; (2) the fact that infectivity begins prior to the onset of desquamation and frequently continues long after it has ceased; (3) the fact that scarlet fever wards, although abounding in desquamating epithelium, are not a danger to neighboring houses; (4) the fact that the proportion of return cases does not appear to be increased amongst patients sent out from hospital still desquamating.

THE DIAGNOSTIC VALUE OF THE VARIATIONS IN THE LEUCOCYTES AND OTHER BLOOD CHANGES, IN TYPHOID AND MALARIAL REMITTENT FEVERS.

IN the *British Medical Journal* for April 5th this subject is discussed by Leonard Rogers, M.D., Professor of Pathology in the Calcutta Medical College. The investigation was carried on in fifty cases of continued and remittent fever, and the author believes that his results will tend to make the difficulty that so often attends the differential diagnosis of these conditions more easy. The results attained may be summed up as follows:

1. The percentage of the different forms of leucocytes counted in a stained blood film is of great diagnostic value in differentiating malarial and typhoid remittent fevers, and is easily ascertained.

2. An increase in the lymphocytes to forty per cent. or over, without an increase in the large mononuclears, points to typhoid as against malarial fever.

3. An increase in the large mononuclears to about twelve per cent. and upwards, especially during the remissions of the temperature, strongly indicates malaria as against typhoid fever. This change is of great value when parasites are absent from the blood.

4. The presence of myelocytes in any number as from one to five per cent., points to malaria as against typhoid fever.

5. A high degree of anæmia, such as reduction of the red corpuscles to below 3,000,000 per cmm, is much more frequently met with in malarial than in typhoid fever.

6. A very great reduction in the total leucocyte count, such as to below 2,000 per cmm., is much more frequently met with in malarial

than in typhoid fever, while the proportion of white to red corpuscles in malaria is not infrequently less than 1 to 2,000, which is rare in typhoid fever.

7. Leucocytosis can be detected by a great excess of white corpuscles, upwards of 80 per cent. of which are polynuclears, in a stained blood film, and is often of service in excluding malaria in intermittent fever due to liver abscess or other local inflammation.

With regard to the erythrocytes, while a secondary anæmia is not infrequent in the latter stages of typhoid fever, the ordinary case shows no well marked deviation from the normal; this is true in many cases of malaria, but in some we find a reduction, and the hæmoglobin as indicated by color index may show greater variation, both above normal and below, than is commonly found in typhoid fever.

AN EXPERIMENTAL AND CLINICAL RESEARCH ON THE TEMPORARY CLOSURE OF THE CAROTID ARTERIES.

IN the *Annals of Surgery* for April, George Crile of Cleveland discusses this subject in the light of a number of cases in which this method of preventing hemorrhage has been used. There is no doubt that the most serious complicating feature in the field of operative surgery in the region of the head and neck is that of hemorrhage, not only on account of the difficulty it causes in obstructing the field where the technique is so difficult, and the danger to the patient from loss of blood from vessels which their position renders difficult to clamp or ligature, but also on account of the danger arising from pneumonia following the inspiration of blood. This being the case the surgeon naturally looks to some method of shutting off the blood supply to the parts; permanent closure of the external carotid has been done in many instances without serious effects, but the permanent closure of the common or internal has been found a much more serious operation on account of the cerebral complications which follow in a large number of cases, 11 per cent. according to Wyeth.

Examination as to the effect of temporary closure of the common carotid by means of clamps in the dog showed an absence of serious histologic injury to the vessel wall after as long as forty-eight hours if the site of application was not infected. As to physiologic effects, it was found that while pressure rose on application of the clamp, it soon afterwards fell, that respiration was not considerably affected, and that the giv-

ing of the anaesthetic could be carried on as before while no emboli or thrombosis were found, or effect on the brain.

Encouraged by this result the author applied the method to the operation on the human subject, with the result outlined below. The method was as follows: Twenty minutes previous to operation where the vagus or its branches was to be subject to manipulation, one one-hundredth of a grain of atropine should be injected. Each common carotid is closed by means of a small clamp with a long blade protected by thin rubber, and so arranged that when the blades are approximated by means of a thumb-screw with which it is fitted, they shall be parallel. In operations in which blood may enter the pulmonary tract, the patient should be placed in the Trendelenburg position. If this has been done it is safer to restore the patient to the horizontal posture before removing the clamps.

The operations for which the method was used consisted of removal of tumors of various kinds requiring extensive loss of tissue and difficult dissection. A clinical summary is as follows :

One or more carotid arteries were closed in eighteen patients. Both common carotids were closed in ten ; one common carotid in five ; one external carotid in three. In all there were twenty-eight closures of individual vessels. These were performed between the years of 1897 and 1901.

The age of the patients ranged from seven months to sixty-nine years. There were no deaths attributable to the temporary closure of the arteries.

In every instance the circulation was resumed immediately upon releasing the clamps. There was no appreciable late effect upon the vessel wall at the point of clamping and none upon the circulation in the closed arteries and their branches.

There were no later cerebral effects. Less anaesthetic was necessary with closed arteries, especially in the cases in which the common carotids were closed. In the latter case there may be embarrassed respiration. Wholly or partially releasing one or both carotids gave material and immediate assistance to the respiration.

The operating time was much diminished, since the field of operation was free from blood.

The amount of blood-loss was strikingly less, as was also the difficulty in keeping blood from the respiratory tract.

The application of the clamp may be accomplished through a very small incision, and in several minutes. The proper interpretation of a slowed or of an accelerated pulse, or of an inhibited respiration, the pre-

vention of either direct or reflex inhibition of the heart from mechanical stimulation of the vagus or its branches by the use of atropine or cocaine, the safe and absolute control of hemorrhage by temporarily closing the carotid arteries render operative procedures on the head and neck so much safer as to greatly increase surgical possibilities.

LARYNGEAL PERICHONDritis IN DIABETES.

DR. HUTCHISON reports the following interesting case in the April number of the *Journal of Laryngology*. A school master aged 30, athletic, had contracted diabetes mellitus six years previously, sugar being constantly present in the urine during that time, and frequently in large quantity. Besides teaching, the patient also trained and led the choir in the village church, but in spite of this overuse of the larynx, was free from throat trouble of any kind. Fatigue in speaking was first noticed in July, and hoarseness about the third week of August, followed rapidly by aphonia and dysphagia. The pharynx and fauces became hyperaemic, the left arytaenoid bright red and much swollen, the left vocal cord fixed near middle line. The right side of the larynx was less affected, the movements of the cord seemed slow, and abduction was incomplete. There was no tenderness or swelling over the larynx externally. Three days afterwards a large red swelling extended from the back of the arytenoid region to the epiglottis, completely hiding the left vocal cord. Externally, there was a marked swelling and great tenderness over the left side chiefly, but spreading to some extent over the right side. The dyspnoea and dysphagia were very marked, and there was a distinct smell of acetone in the breath. Death followed in a very few hours.

A striking feature of this case is the rapidity with which the laryngeal condition developed, there being but little over a week between the onset of slight hoarseness and the appearance of wide spread perichondritis. Syphilis could be definitely excluded, and as regards tubercle, there had been no symptom at any time to give rise to a suspicion of its presence.

Laryngeal perichondritis appears to be a very rare complication in diabetes. When the larynx is affected in diabetes, the condition found is most commonly a laryngitis sicca; in cases with marked cachexia and anaemia, ulceration of the posterior laryngeal wall has been described; and in cases in which tuberculosis has developed in a diabetic subject tubercular ulceration has been noted in the larynx, but this is rare.

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No. 9.

EDITORIAL.

SCIENTIFIC RESEARCH AID.

IN this country there are as yet, no research scholarships or endowments, for the encouragement of the Scientific investigation and study of disease. This is much to be regretted.

The various hospitals, throughout the country, have struggle enough to make ends meet, and cannot set aside a sum of money to aid in the scientific study of the cases in their wards. In like manner, the Medical Colleges have not sufficient funds to enable them to pay persons to devote their whole time in the investigation of pathological and bacteriological questions.

There happens to be a law of nature that renders it impossible for the scientific investigator to live without food, raiment and shelter. This being the case, those who would wish to devote themselves to research work are deterred, and forced into other avocations, or are able to give, at serious loss, a portion of their time to experimental and pathological work. In this way the country suffers a great loss. There is something stimulating to the medical profession, as a whole, to have in its midst a certain number who can give their whole time and attention to the study of diseases as they manifest themselves in the country.

The pursuit of scientific medicine is inconsistent with the attempt to conduct a general, or special practice. No man can abstract himself from his investigations to see his patients. Nor, if he did, would he be in a fit condition to see patients, especially surgical cases, after conducting post mortems, or working in the laboratory over diseased and infective tissues. The scientific medical man should be a co-worker with the practical medical man. They cannot well be combined in the same person.

It has been shown that the hospitals have no money for such valuable work, and that the earnings of the medical colleges are used up in running expenses, and a moderate remuneration to the lecturers. The result is that the scientific work of the colleges too frequently falls to the lot of one of the younger men of the staff, whose lot it is also to receive the small end of the pay.

All this can be remedied, and ought to be remedied. Here is an op-

portunity for persons of means. There is no way known by which a gentleman of fortune could do more good than by making over some of his wealth for the encouragement of scientific study. Some of the influential trades bodies could also take this up. The Manufacturers' Association could easily found a chair, or scholarship. So could the railways, the grocers, the dry goods men, the travellers, &c. It only requires a beginning. We hope to hear soon from some of our wealthy and generous people on this very important subject.

Physicians and Surgeons, all over the country, are giving their time freely in attendance on the destitute, and for which they receive no remuneration. At great inconvenience to themselves they are trying to carry on scientific investigations that the wealthiest receive the full benefit of in times of sickness. In consideration of these gratuitous sacrifices that the medical profession is constantly making for the good of all, it is not too much to ask, and expect, that the rich members of the community will come to the aid of the Medical Scientist. There are in Toronto alone hundreds of citizens who are able to make a liberal donation to such a praiseworthy object. In many of the large cities and hospital centres in other countries, some large gifts, have been made in aid of original research. *Felix faustumque sit*.

THE ONTARIO MEDICAL ASSOCIATION.

THE 22nd Annual Meeting will be held on June 4th and 5th at the Education Department, Toronto.

Some weeks ago, the preliminary notices were mailed to the 800 members in all parts of the province; and the list of papers, promised thus far, is very satisfactory.

It is hoped that the Committee will receive a still more hearty response, and a ready coöperation in their efforts to make the meeting a success.

A new feature of the meeting will be the devotion of a whole session to the exhibition of clinical cases, medical, surgical, skin and diseases of children.

It is expected that a large number of cases will be presented, not only from Toronto, but from elsewhere, as arrangements have been made with the railroads, by which patients, brought to the meeting, may enjoy the same privileges as those extended to members of the Association. Regarding railroad certificates, it is well to have it understood that the reduction given, in the return fare, is figured on the number of railroad certificates presented to the Secretary at the time of meeting, and not on the total attendance at the meeting.

The provisional programme will be sent out about May 20th, and it is requested that all members intending to participate in the work of the meeting, will inform the Secretary as to the title of his paper, or the character of his clinical cases by that date.

Of the subjects, already fixed for discussion, may be mentioned Obstetric Emergencies, Dry Labor, Placenta Praevia, Anaesthetics, Pneumonia, Tonsillar Hypertrophies, Cerebro-Spinal Meningitis, Ventrofixation, Cerebral Embolism, Anomolous forms of Small Pox, and others. The committee will be glad to hear from members desirous of discussing any of these subjects, and, if informed in time, will make provision for the same. Such communications may be sent to Dr. J. T. Fotheringham, 36 Carlton St., Toronto, Chairman of Committee on Papers, or to Dr. H. C. Parsons, 72 Bloor St., West, General Secretary.

We would urge upon the members of the profession throughout the Province to attend the meeting. In doing so they will increase the interest and enthusiasm of the Association, and will also derive a positive benefit themselves. The Association has done much for the profession during the past twenty-two years. A generous and hearty support from the profession would greatly enhance its usefulness.

On several occasions the advisability of publishing the proceedings in book form has been discussed. The Publication Committee this year will likely submit some definite proposition in this matter. It would be a very desirable thing indeed to have the proceedings in some collected and permanent form.

It would be of the utmost assistance to the committee in its efforts, if those who cannot be present would either remit their fees, or intimate their willingness to subscribe for a copy of the proceedings. It is perhaps in this way that the membership can be made both more permanent than at present and materially increased.

CONFUSIONAL INSANITY.

THIS form of insanity has been recognized for some thirty years. It was first spoken of in Germany under such names as amentia, acute hallucinatory insanity, etc. It was described in the United by Dr. Spitzka in 1877. Since then many articles have appeared upon this form of mental derangement.

This form of insanity comes on after severe mental or physical exhaustion, or from some intoxication of the system with the poisonous products of germs, or of deranged action in some of the organs of the

body. The variations in this form of insanity are numerous, from that of acute delirious collapse to complete stuporous insanity.

There may be a predisposition to the disorder. The active causes are excitement, mental overwork, exhausting acute diseases, lactation and the puerperal state, or such conditions as affect the nutrition of the brain. The two main factors, in the etiology of the condition, are exhaustion of the brain cells, and auto-intoxication. The state of exhaustion may be the primary, or main cause. On the other hand the toxins may be mainly responsible for the brain-cell exhaustion.

There is usually a weakened state of the general organism. Long hours, and night watching, without proper sleep and rest, favor the onset of the trouble. The occurrence of an attack of typhoid fever, the attempt to nurse a child, or a period of religious excitement may prove quite sufficient to precipitate mental derangement in one who is, at the time, in a reduced state of health, or who, by predisposition, has an unstable nervous organization. The acute collapse delirium type is more frequent than the long-continued amentia, or stuporous form.

In many instances, the onset of the attack is sudden. The person may have a vague notion that something is wrong and may try to explain the delusions passing through the mind. In most cases, however, all knowledge of the mental state is soon lost, and there is no recollection afterwards of what took place, or of the delusions. In the collapse cases there is usually little, or no appreciation of the persons condition or surroundings. Meaningless phrases are constantly repeated; and the person is the victim of a great variety of illusions and hallucinations, and may be dominated by the notion of being under spells, or influences. There is often marked alliteration, or incoherence in speech.

There is, as a rule, exaltation rather than depression. There may be periods of terror; and, during these, the patient may become violent, and do acts of self-injury. There is, at times, much motor excitement. Generally, however, these cases are easily managed. In some cases, the attack is preceded by insomnia, or a feeling of exhaustion and overwork. These sensations may last for only a few days, or for a month, or more, before the mental symptoms begin. In the cases with a somewhat slow onset, there is usually depression. The erotic and hilarious manifestations are no longer the rule. The mental confusion may come on very gradually.

The degree of agitation and motor activity, to some extent, is lessened by the previous physical exhaustion, caused by the disease that has induced the attack. If the person attacked is in a much reduced condition, the mental symptoms may be those of extreme apathy, or amentia.

If the attack comes on while in a vigorous condition, the mental state may be that of maniacal agitation. As the attack progresses, the mental confusion becomes more pronounced, the hallucinations more evident, and the memory worse, or altogether lost. The emotional condition may be one of depression, hilarity, grand delirium, or delusions of exaltation. The actions are generally of an aimless nature, but easily resisted and controlled. Only rarely are they of the furious kind.

The physical state is usually one of weakness from exhaustive work, severe illness, hæmorrhages, the toxins of febrile diseases, lactation, etc. Attacks that are due to overwork, or sudden shock may be more muscular and difficult to manage. In cases of collapse delirium, the strength may be fairly well retained till convalescence commences. Digestion is usually poor, there is loss of appetite, and forced feeding may be called for.

Some cases which begin with delirium may in a few days pass into the stuporous type. This may vary from dull apathy to absolute abolition of mental activity. The states of agitation and apathy may alternate. Throughout all the types there is marked mental incoherence.

The prospects of recovery are variously estimated by different writers. In the acute form of collapse delirium the chances of recovery are good. In the more developed types the outlook is not so good. Sometimes the progress of recovery from an acute attack is interrupted by some trivial cause, as the visit of a friend, or some annoying news. The prospects of recovery from the mental derangement is dependent to a large extent upon the physical condition of the patient. This again is influenced by heredity.

The treatment has to deal with brain exhaustion, mal-nutrition, and the action of toxins. The indications are to restore nutrition, secure rest, and eliminate the poisons. These patients must be treated as sick people. Mental quiet is indispensable. Rest in bed may be necessary; but this may be difficult of attainment in delirious forms. The bowels must be thoroughly cleared out by aperients and enemas. A warm bath of 95° F. for half an hour helps to secure sleep. The warm bath may be continued for several hours in excited cases, or the warm pack may substituted. Cold compresses to the head have a soothing effect. In cases of much motor excitement, seclusion may be requisite. In cases when these means fail, recourse to some hypnotic may be demanded.

The feeding of these cases is very important. Milk, eggs and good broths are called for. Forced feeding may have to be invoked. Usually after one or two forced feedings, the patients submit to being fed, or take their food without further trouble.

As to sleeping drugs, those of greatest utility are chloramid, par-

aldehyde, sulphonal, and the bromides. In some cases a dose of alcohol in milk punch, or ale will induce sleep. Restraint should be resorted to with much hesitation. It is much better to control the patients by means of the influence of a skilful nurse.

SUDDEN DEATH IN KIDNEY DISEASE.

THE important relationship between disease of the kidneys and sudden death is being more and more recognized. A few years ago Sir Samuel West pointed out that a very considerable number of those who were brought into the hospitals in an unconscious condition, or in an apoplectic state, were the victims of chronic kidney disease.

Cirrhosis of the kidneys is a most insidious disease. It may be far advanced before the person becomes aware of anything seriously being wrong with the health. During the progress of this disease, the arterial system becomes involved, or is perhaps first the seat of pathological changes. These vessels become hardened and tortuous, and the arterial tension is raised. This means extra work for the heart to perform; and it becomes hypertrophied. In time the arteries are diseased in places, so as to render their rupture an easy matter.

In this condition of the vascular system, a sudden and severe hemorrhage may take place in some portion of the brain, often causing sudden death, especially if the clot is large, in the ventricles, in the pons, or on the medulla.

But these cirrhotic kidneys may cause sudden death in another way.

The diseased condition of these organs renders them poor subjects for any extra work, or acute congestion. The sufferer from cirrhotic kidneys is exposed to a chill and the action of the skin is promptly lessened. This means extra work for the kidneys, which they cannot perform, and the uræmic state is soon ushered in, with coma, or convulsions, or both.

Under exposure, too, these diseased kidneys may become congested, and, in their impaired condition from long standing and progressive degeneration, they fail completely to purify the blood. The person is stricken down with acute uræmia. Sudden death is the almost invariable result of such a complication of acute illness planted on the old diseased state of the kidneys.

If the apex beat is displaced outwards, the sound at the base accentuated, the arterial tension increased and albumin found in the urine, the diagnosis of renal cirrhosis is certain. Albumin may often be absent; but careful search will at last detect it. Casts, too, may be ab-

sent, but they are not always absent. The less the amount of albumin, the more difficult, as a rule, is it to find casts. The casts are generally small and hyaline in character. Albumin may only be found in the morning specimen, or after severe exercise. If casts are found from time to time over a considerable period of time, there need be little doubt, when taken with the cordio-vascular changes mentioned.

APPENDICITIS.

THE medical and surgical relationships of the appendix veriformis are now recognized by all physicians and surgeons. As the result of the many researches during the past ten or fifteen years, many important facts have been fairly well established.

It is now admitted by the most experienced anatomists and surgeons that the appendix is never absent except as the result of disease. Failure to find it is, therefore, almost invariably due to the fact that it is hidden in the retroperitoneal tissue. When the symptoms are of such a character as to justify operative interference, the failure to find the appendix is an undoubted misfortune to the patient.

Dr. McBurney's point, one and a half to two inches from the anterior superior spine on a straight line to the umbilicus, is a land mark of much value. This is the position where the appendix arises from the caecum. It may not, however, be the situation of the disease. Because pain or pressure is absent from this point, cases have been declared not to be instances of appendicitis. In this way serious errors have been committed. The painful point may be in Douglas's pouch, right flank, in the iliac fossa, near the umbilicus, and beneath the right rectus, or right linea simulunaris. A rectal examination may clear up any doubt.

The appendix is a small portion of the large intestine. It consists of the following layers: the peritoneal and subperitoneal, the longitudinal and circular muscular tissue, the submucosa, the muscular layer of the mucosa, and the mucosa. The peritoneal coat and the meso-appendix are continuous. The subperitoneal tissue, blood-vessels, nerves and lymphatics, which are contained within the layers of the meso-appendix, are intimately connected with the submucosa. This union takes place through gaps in the muscular coats. Through these gaps pass vessels, nerves and lymphatics. The importance of this becomes apparent when it is remembered that the mucosa and submucosa are places for bacterial invasion. Through these gaps, and by means of the vessels and lymphatics, the subperitoneal tissue may become readily infected. The lymphatics empty into those of the external iliac artery, of the right broad ligament, and of the right side of the pelvis along the internal iliac artery.

The nature of the muscular coats, the vascular supply, the lymphatic tissue and vessels favor rapid spread of inflammation, ulceration and perforation. The lymphoid tissue may become so swollen within the muscular coats as to lead to its rapid gangrene.

There may, or may not, be ulceration of the mucosa. These conditions may occur with, or without, bacterial invasion. Foecal concretions may be found in some cases. There are still some differences of opinion on the formation of these concretions. Many hold that they are caused by the moulding influence of the muscular coats on the soft foecal matter. On the other hand, and with much force of argument, they are thought to be of bacterial origin. These concretions may cause ulceration, perforation, gangrene, and septic peritonitis. In some cases of foecal concretion in the appendix, there is severe and sudden attacks of appendicular colic, without rise of temperature, vomiting, or increased frequency of pulse.

The appendix may become strictured. As the result of ulceration there are thickening and contraction of the submucosa. Beyond this constriction, the appendix becomes dilated and contains a considerable quantity of purulent, or other unhealthy, fluid. At the seat of the stricture, the lumen of the appendix may be completely obliterated. These mucous cysts and empyema of the organ frequently cause recurrent attacks of appendicitis. In some cases the entire canal of the appendix is obliterated. This has been regarded as the natural method of cure. This is by no means always true; some of these appendices, with complete obliteration of the lumen, have caused much pain, and been often the seat of fresh attacks of inflammation.

There is a considerable group of cases in which the lymphatic vessels and glands suffer the chief damage. The glands around the appendix and caecum are swollen. There are usually adhesions, and the appendix is enlarged, firm and reddened. The lymphoid glands are swollen, and there is dilatation of the lymph spaces and vessels of the mucosa and submucosa. These cases may undergo complete cure; or their subjects may be the victims of many repeated attacks. There may be peritonitis, with and without suppuration. In some instances, the most rapidly fatal examples of peritonitis occur without the existence of pus. It is of much more importance to ascertain the nature of the infection and the involvement of the peritoneum than the presence, or not, of pus in the appendix.

Sometimes there is perforation and the formation of a chronic abscess. This abscess may remain walled off from the general peritoneal cavity. The abscess may form in the pelvis, in the iliac fossa, or behind

the caecum. Some of these cases pursue a decidedly chronic course. The pus may find its way out by the rectum, or vagina, or in the right flank. These are natural directions for the pus to take when the appendix ruptures into the retroperitoneal tissue.

ARTHRITIS DEFORMOUS.

THIS disease has had a number of names attached to it. It is known as chronic rheumatism, rheumatic gout, osteo-arthritis, arthritis sicca, rheumatoid arthritis. Some of these names seem to connect the disease with rheumatism or gout; others have a pathological significance; while others have reference more to the clinical appearances. There are possibly different diseased states included under these names.

Clinically there appear to be two well defined varieties. In one, there is considerable inflammation and tenderness in the soft part of the smaller joints. The patients are usually moderately young, under mid-life. There is not at first any marked tendency towards the formation of bone projections about the affected joints; and the patients health is often moderately disturbed. In the second group there is a greater average age, there is not much pain, nor tenderness, the health is seldom much deranged, and there is a formation of bone about the affected joints from the commencement of the disease.

Three views have been strongly urged as the causes of the affection. First, it has long been contended that it is a diathetic disease, and is closely allied to gout. The supporters of this theory claim that it is partly hereditary and partly dietetic. The second theory is that it is due to some neuropathic state. Those who support this view point to the joint affections in ataxy and syringomyelia. The third opinion is that it is an infection disease, and owns its origin to bacteria.

This latter view is the one that is certainly gaining ground, and has most facts to support it. At sometime or other in the progress of these cases there are pain, swelling, tenderness, fever, sweatings, etc. In some cases, a well defined septic, infecting focus has been found in the body. In some cases, the treatment of this focus has cured the joint disease. The chronicity of this disease can be well explained on the bacterial theory. First of all there is the chronic character of the infecting focus. Then there is the persistency of the germ life in the affected joints, after the focus of infection has been cured. Finally, there is the persistency of the charges in and around the joints as the remains of the disease while it was in an active stage.

All this leads to an entirely changed view as to treatment. The source of infection must be sought for and removed. The disease must be treated as a sepsis of very chronic character. The diet must be

nutritious and wholesome. The notion that arthritis deformans was a gouty condition led to great errors in the feeding of these patients. Generous diet and stimulants in judicious quantities are of much service in many cases. There is in all probability no case of the disease that cannot be explained on the bacterial theory. On the other hand there is probably no case that can be satisfactorily explained on the gouty or neuropathic theories.

"THE HEALING POWER OF GOD."

SUCH is the heading in the daily papers a short time ago of the discussion that took place at the Ministerial Association of Toronto. One of the speakers said he had no sympathy with Christian Science, though he was a firm believer in "Divine healing," which he said "was the supernatural interposition of God, in answer to prayer, restoring health to the body in cases of sickness without the use of drugs."

Another minister believed "in faith healing up to a certain point." He thought certain means should be used.

Another contended "that all healing was divine from first to last, and that it was only according to laws of body, soul and spirit laid down by God."

Another that an extreme position had been taken by one of the speakers, and asserted that the feeling of scepticism would disappear if a genuine case of cure of cancer or advanced consumption could be proven.

Another speaker said that he was more than ever fortified in the opinion that the system was not absolutely sound.

One other person gave some statement of marvellous cures.

Finally, a minister said that seven cases out of eight got well if left alone, and that a minister could not make a plank of Divine healing any more than he could of the aid which God gave a man in business. He said he had never heard of a really incurable case in which recovery was accomplished by Divine healing.

From the above can be gathered the opinions of a number of persons upon a subject they do not understand. Not one of the speakers could give any reason why one case of himplesia makes a good recovery and another no recovery at all; and that to restore the latter case new tissue would have to be given the patient.

Every medical man knows of the variety and different characters of tissues. It is not necessary to inform medical men of the difference between the phantom tumor of a nervous woman and the ovarian cyst of another woman.

If ministers would only adhere to their own special work and leave the study and treatment of disease to the proper parties it would be a good thing for science and religion.

EDITORIAL NOTES.

In order to have the complete text of Dr. Roddick's bill, THE LANCET has been issued a few days late.

The Trinity Medical College has closed a very successful year. The College examinations are over, but the results are not yet known.

The new operating room for Grace Hospital, Toronto, is nearly completed. It is fitted up with every modern requisite. The entire cost of a new room, and all the appliances is the generous gift of Lt. Col. H. M. Pellatt.

The Toronto Western Hospital has now had an extensive and very favorable experience with the tent system of treating patients. The results in both medical and surgical cases, are quite satisfactory. The large tent for consumptive patients is being highly spoken of by those who have been in it as patients, or have had friends in it. The Board of Governors is making arrangements for two additional tents for those patients, male or female, who may require isolation for any reason.

A case was decided in England last month that is of peculiar interest to the profession. A medical attendant had received presents from a patient previous to her decease amounting to £800. The executors moved to recover this sum, on the presumption of influence and lack of independent advice, though there was no representation of undue influence or pressure being brought to bear by the doctor upon his patient, or of incapability of intellect on the part of the latter. The judge decided in favor of the plaintiffs, and ordered the amount to be refunded. The onus of proving the absence of undue influence is thus put upon the medical man.

We have received a notice from Dr. Frederick Peterson, President of the Commission of Lunacy of New York State, 4 West 50th St., New York City to the effect that some twenty-eight appointments in various asylums are offered for Internes or Clinical assistants, to students about to graduate or young physicians, the Institutions are as follows :—

Utica, Buffalo, Gowanda (homeopathic), Binghamton, Kings Park, L. I.; Flatbush, Brooklyn; Central Islip, L. I.; Ward's Island, N. Y. City, (two hospitals); Rochester, Ogdensburg, Poughkeepsie, Willard, Middletown (homeopathic).

These appointments are good for one year and lodging and board is provided. We do not doubt that the experience obtained in this way would be considered valuable by many of those entering the profession.

FORTHCOMING CONVENTIONS.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.

The following is a list of the papers, corrected up to date, that will be read at the forth coming meeting of the American Medico-Psychological Association, which meets in Montreal, June 17, 18, 19 and 20.

Papers have been promised as follows : Dr. Henry M. Hurd, Baltimore, Md., Folklore of Insanity ; Dr. E. G. Carpenter, Columbus, Ohio, Insanity and Degeneracy ; Dr. J. H. McBride, Pasadena, Cal., Boarding out for the Chronic Insane ; Jas. M. Buckley, D.D. L.L.D., Morristown, N. J., The Possible Influence of Rational Conversation on the Insane ; Dr. A. B. Richardson, Washington, D.C., Women Nurses in Hospitals for the Insane ; Dr. George Villeneuve, Longue Pointe, Que., Conjugal Jealousy as a Cause and Excuse for Crime from a Medico-Legal Standpoint ; Dr. Jas. Russell, Hamilton, Ont., the Psychology of Anarchism ; Dr. William Rush Dunton, Towson, Md., Dementia Præcox ; Dr. E. D. Bondurant, Mobile, Ala., The Early Diagnosis of General Paresis and the Possible Curability of the Disease in its Initial Stages.

The Psychical Symptoms of Focal Diseases of the Brain, Dr. C. K. Mills, Philadelphia, Pa.

An Analysis of Two Homicides, Dr. E. C. Runge, St. Louis, Mo.

Hydriatics as an Adjunct in the Treatment of Insanity, Dr. E. C. Dent, New York.

The Criteria of Insanity and the Problems of Psychiatry, Dr. E. Stanley Abbot, New York.

How near akin are Insanity, Crime and Degeneracy ? Dr. J. Elvin Courtney, Denver, Col.

Care of the Insane in Brazil, Dr. D. H. Kidden, Ogdensburg, N. Y.

The Study of Psychiatry To-day ; what should it be ? Dr. Louise G. Robinwitch, New York.

On a few Important Terminal Diseases of the Insane, Dr. Adolf Meyer, Ward's Island, N. Y.

Litigious Insanity, Dr. Ed. B. Lane, Boston, Mass.

The Organic Sensations in Mental Pathology, Dr. Edward Cowles, Warner, Mass.

Some Results and Possibilities in Family Care of the Insane in Massachusetts, Dr. Owen Copp, Boston, Mass.

Observations on the Insane Negro, Dr. D. F. Drury, Petersburg, Va.

Night Nurses in State Hospitals for the Insane, Dr. C. R. Woodson, St. Joseph, Mo.

The Development of Self-Control, Dr. W. H. Hattie, Halifax, N.S.

Papers of which the titles are not yet announced are promised by Dr. A. Vallee, Quebec; Dr. Daniel Clark, Toronto; Dr. Jas. V. Anglin, Montreal; Dr. Geo. L. Sinclair, Halifax, N.S.; Dr. D. H. Harcker, Farnhurst, Del.; Dr. M. E. Wittee, Clarinda, Iowa; Dr. C. G. Hill, Baltimore, Md.; Dr. J. W. Babcock, Columbia, S.C.; Dr. J. A. Houston, Northampton, Mass.

INTERNATIONAL MEDICAL CONGRESS.

The Fourteenth International Medical Congress will be opened in Madrid, Spain, on April 23rd, 1903, and close on the 30th of the same month.

Dr. Abraham Jacobi, having been requested by the officers of the Congress to form the American Committee, has arranged that the plan devised by Dr. William Osler, which worked so well in preparation for the Thirteenth Congress, shall be followed also for the Fourteenth.

Invitations to accept places on the Committee have, therefore, been sent to the President of the American Congress of Physicians and Surgeons, the President of the American Medical Association, the presidents of the fourteen constituent societies and associations of the American Congress, the Surgeons-General of the Army, Navy and Marine Hospital Service, the President of the Canadian Medical Association, and the President of the National Dental Association. Acceptances have been received from nearly all of those invited.

Dr. Howard A. Kelly, of Johns Hopkins University, will deliver the address at one of the general meetings of the Congress, and has chosen for his subject, "The Passing of a Specialty."

Dr. Ramon Guiteras has been appointed delegate to the Congress by the New York Academy of Medicine.

The Committee to date consists of W. W. Keen, M.D., of Philadelphia, President of the American Congress of Physicians and Surgeons; John C. Wyeth, M.D., of New York, President of the American Medical Association; R. H. Chittenden, M.D., of New Haven, President of the American Physiological Society; Walter S. Christopher, M.D., of Chicago, President of the American Pediatric Society; Joseph Collins, M.D., of New York, President of the American Neurological Association; John W. Farlow, M.D., of Boston, President of the American Laryngological Association; Samuel A. Fisk, M.D., of Denver, President of the American

Climatological Association; S. C. Gordon, M.D., of Portland, Me., President of the American Gynecological Society; Geo. T. Jackson, M.D., of New York, President of the American Dermatological Association; Horace G. Miller, M.D., of Providence, President of the American Otological Society; Presley M. Rixey, M.D., of Washington, Surgeon-General of the Navy; F. J. Shepherd, M.D., of Montreal, President of the Canadian Medical Association; George M. Sternberg, M.D., of Washington, Surgeon-General of the Army; O. F. Wadsworth, M.D., of Boston, President of the American Ophthalmological Society; DeForest Willard, M.D., of Philadelphia, President of the American Surgical Association; H. August Wilson, M.D., of Philadelphia, President of the American Orthopedic Association; James C. Wilson, M.D., of Philadelphia, President of the Association of American Physicians; Walter Wyman, M.D., of Washington, Surgeon-General of the Marine Hospital Service; Abraham Jacobi, M.D., of New York, Chairman.

JOHN H. HUDDLESTON, M.D., Secretary,
126 West 85th St., New York City.

AMERICAN ACADEMY OF MEDICINE.

We have received the following notice and particulars of the 27th Annual Meeting of the American Academy of Medicine. Any further information can be obtained from the Secretary, Charles McIntire, Easton, Pa.

"The twenty-seventh annual meeting of the American Academy of Medicine will convene at the Kensington, Saratoga, June 7th, at 11.00 a.m., and continue during Monday, June 9, 1902.

A series of interesting and valuable papers is promised, covering a variety of subjects and not confined so closely to a symposium as has been the custom for the past few years. A feature of the meeting will be an address, by invitation of the committee, by Edward T. Devine, of the United Charities of New York, on "Co-operation of the Medical Profession in Charitable and Social Reform." It is expected to have a full discussion of this important subject immediately following the address.

The President's address will be given on Saturday evening and the social session on Monday evening. The price of the tickets for the latter, including supper, is two dollars each.

The completed program will not be ready until about the middle of May when it will be sent to those who will advise the Secretary of the Academy of their wishes to receive copies.

The Committee of Arrangements reports as follows: Rates—one in a room \$3.00 and \$4.00 a day. Two in a room \$6.00 and \$7.00 a day.

It is especially requested: 1. That you make requests for reservation as soon as possible, the choice of rooms being given to those who are booked first. 2. That you expressly state whether you expect to remain for the meeting of the American Medical Association. This is important to prevent your rooms being assigned to some one coming to the Association meeting only. For reservations address the proprietor, Henry A. Bango, at the Sturtevant House, New York City."

A PATHOLOGICAL EXHIBIT.

We have been asked to publish the following notice with regard to the Pathological Exhibit of the American Medical Association.

"The Committee on Pathologic Exhibit for the American Medical Association is anxious to secure materials for the coming session at Saratoga, June 10th to 13th, inclusive.

This exhibit was accorded much praise and comment during the sessions at Atlantic City and St. Paul, respectively, where were collected valuable exhibits from all parts of the country. The materials included not only pathologic specimens but the allied fields, bacteriology, haematology, physiology and biology were well represented.

It would also be desirable to secure exhibits of new apparatus, charts, etc., used by teachers of pathology and physiology in Medical Colleges.

This exhibit has already become a permanent feature of the annual sessions of the American Medical Association, and the Committee is desirous of securing its list of exhibits as early as possible, and to this end asks those having desirable materials to communicate with any member of the Committee.

To contribute to the value of the work, it is suggested that as far as possible each contributor select materials illustrative of one classification, and by such specialization enhance the usefulness of the display.

Those lending their materials may feel assured that good care will be given their exhibits while in the hands of the Committee, and due credit will be given in the published reports.

Very respectfully,

F. M. JEFFRIES, 214 E. 34th St., N. Y. City.

W. A. EVANS, 103 State St., Suite 1403, Chicago, Ill.

ROGER G. PERKINS, West. Res. Med. School, Cleveland, O.

Committee on Pathologic Exhibit, American Medical Association."

OBITUARY.

MR. JAMES SCOTT

THE late Mr. James Scott of Toronto, was a prince among men. His thoughts were ever with the poor and the suffering. This was well manifested by his untiring work for the Home for Incurables, The Orphans' Home, The Toronto Western Hospital, and many other charities. Of his wealth he has made most generous bequests to educational and charitable work. He has placed at the disposal of his sister Miss Scott, \$50,000 for Trinity University; and \$50,000, either for a Hospital for Consumptives, or \$20,000 to the Toronto Western Hospital, \$20,000 to the Kingston General Hospital, and \$10,000 to Trinity College. These munificent bequests are in keeping with what the LANCET is urging upon the wealthy citizens, of the Country. Mr. Scott has set a noble example. Truly may we apply to the late Mr. Scott's acts the words of Horace:—

“Exegi monumentum aere perennius,

“Regaliq; situ pyramidum altius.”

PERSONAL.

Dr. Balfour will open an office in London, Ont.

Dr. Steele, of Keewatin, will locate in Winnipeg.

Dr. Andrew Scott, of Peterboro' has gone to London.

Dr. Cowie, of Halifax, has removed to 81 Morris St.

Dr. Milne, Victoria, B.C. spent a few days in Toronto.

Dr. W. H. Clutton was taken seriously ill at Edgar, Ont.

Dr. G. S. MacCarthy has returned from a trip to Jamaica.

Dr. Rudd, of Woodstock, has recovered from his late illness.

Winnipeg will build a new small-pox hospital this summer.

Dr. J. W. Russell succeeds the late Dr. McKillop in Wardsville.

Dr. Macaulay reports fifteen cases of small-pox at Westport, Ont.

Dr. A. M. Forbes, of Montreal, has removed to 122 Stanley St.

Dr. Westland, of London, has returned from a trip to Bermuda.

Dr. Rose of Winnipeg, has entered on practice at Gladstone, Man.

Dr. Cameron of Galt, Ont., has gone to California for a couple of months.

Dr. Morphy of Lachine has returned from a winter's course in Vienna.

Dr. Culbertson, Durham, Ont., will open an office at Dauphin Man.

Dr. Stockton, late of Otterville, Ont., has begun practice in Moosejaw.
Dr. A. T. Mussen has begun practice at 119 MacKay St. Montreal.
Dr. and Mrs. Hodge of London, have gone on a visit to Great Britain.
Dr. Greer, Peterboro', has recovered from a severe attack of pneumonia.
Dr. Shirres, of Dorchester St. Montreal, is studying in Philadelphia.
Dr. and Mrs. Wilson, of Niagara, have returned from their wedding tour.
Dr. W. J. Clark of Orangeville was hurt in a runaway accident last month.

Dr. F. LeM. Grasset and Mrs. Grasset, Toronto, left for England, April 18th.

Dr. J. T. Finnie, of Montreal, has removed from 137 Bleury St. to 35 Park Ave.

Dr. Beecher of London has completed a post-graduate course at Johns Hopkins.

Dr. R. J. Dwyer of Toronto, has gone on a three months' trip to the old country.

Dr. Caldwell, of Dundas, and Mrs. Caldwell have returned from their wedding trip.

Dr. McKay, Reserve Mines, Sydney, has gone to take a post-graduate course in London.

Dr. G. W. Smith, house surgeon of the Water St. hospital, Ottawa, has gone to Mattawa.

The Brantford Hospital Board are fitting up new operating and surgeons' rooms.

A new hospital has been opened at Levis under the patronage of Mgr. Charles Guay.

Dr. Kirkpatrick, of Halifax, recently visited the eye and ear hospitals of New York.

Dr. J. H. Eastwood has removed his office from Brock St. Peterboro' to 467 Water St.

The Victoria B.C. Hospital have determined to copyright their nurses' uniform.

The new free Hospital for Consumptives will be opened at Gravenhurst, on May 21st.

Dr. Pennyfather, of 387 William Ave., Winnipeg, is recovering from injuries received last month.

Dr. Gunne, of Dauphin, Man. is leaving for the old country to engage in post-graduate work.

Contribution Box Receipts at an Ontario Hospital for the month were reported to be one cent.

A sanatorium is to be built in Vancouver, B. C. under the direction of Dr. Ernest Hall of Victoria.

The meeting of the American Congress of Tuberculosis has been postponed to June 2nd, 3rd and 4th.

Dr. H. A. Kingsmill, M.R.C.S. of London, has returned after a prolonged post-graduate course in Europe.

Dr. G. W. Howland of Toronto, has received his M.R.C.S. at the recent examination in London. Eng.

Dr. Jas. Stewart of Montreal, has been elected President of the Association of American Physicians.

Dr. Richardson, is again able to attend to his duties as Surgeon to the Toronto jail, after a long attack of illness.

Dr. Kirkpatrick, of Halifax, has returned from a visit to the New York eye, ear, nose, and throat hospitals.

Dr. F. A. Gadbois, of Sherbrooke, has been appointed Inspector of the Board of Health for the district of St. Francois.

Dr. I. W. N. Baker, of Woodstock, has completed a course in the New York eye, ear, nose and throat hospitals.

Dr. Langlois, of Quebec, was tendered a complimentary banquet on the occasion of his approaching marriage.

Dr. W. H. Drummond, author of the *Habitant* and other books lectured recently at Massey Music Hall, Toronto.

Dr. Thom and Dr. Clark, recent graduates of the Western Medical School, have left for Manitoba to engage in practice.

The Victoria Hospital, Fredricton, N. B., has been the recipient of benefices in the form of endowments for beds and a fine organ.

Dr. Porter, of North Bay, a patient at the Oakville Sanatorium was accidentally drowned while bathing in the lake on May 6th.

Dr. P. C. Park of Hamilton, has left for the hospitals of New York and the continent, where he will spend some months.

Dr. Harbottle of Burford, has been released from the Central prison to which he was sentenced for shooting Herman Stuart.

Dr. J. R. Cox, General Secretary of the McGill Y.M.C.A. has resigned to enter on the practice of his profession.

Dr. H. V. Pearman, of Halifax, is visiting some of the eye, ear, nose and throat hospitals of New York and other American cities.

Sir. Wm. Macdonald has offered to build a consumption sanatorium at Montreal and Mr. W. C. Edwards has offered a similar boon for Ottawa.

Dr. Boisvert of St. Joachim de Shefford, died, March 22nd, from pneumonia. He was a graduate of Laval, and was only 32 years of age.

Dr. Reddy has resigned from the position of attending physician to the Montreal Western Hospital, to be succeeded by Dr. W. Grant Stewart.

Dr. J. M. Rogers of Ingersoll was married on April 24th to Miss. Edythe Belle Hambidge, only daughter of Mr. J. B. Hambidge, of Aylmer.

Dr. A. M. Hebb (Dal. '02) intends entering the firm of Marshall & Hemeon, Bridgewater, Dr. Hemeon having gone to London to pursue post-graduate work.

Dr. C. P. Cameron (Dal. '02) will practice his profession in his native home, St. Peters, C.B., where he will enter into partnership with Dr. Chas. Bissett, of that place.

Dr. M. A. Curry, of Halifax, leaves shortly on a trip to the old country. He will be accompanied by Mrs. Curry and expects to be in London during the time of the coronation.

Notre Dame Hospital, Montreal, has acquired a new site on Sherbrooke St. opposite Parc Lafontaine, comprising 79,476 ft. for which it is said, \$27,563.65 was paid.

Mr. G. B. Maillet, of 360 St. Andre St., Montreal, died suddenly on April 19th. He was a graduate of Burlington College; he came to Montreal, in 1881 and had a large practice.

There is trouble in Montreal over the proposed site for the Isolation Hospital, the municipality of Outremont refusing to have it located there and a new site must be sought.

Silas Fulton (Dal. '02) intends practicing his profession in Truro. He leaves college with a good record, having led his class in all four years. We feel confident that ere long he will be successful in building up for himself a good practice.

Dr. H. A. Beatty, M.R.C.S., whose home is at 207 Simcoe St., Toronto, has been offered the position of surgical registrar of Westminster Hospital, London, Eng. Dr. Beatty has just returned home from a four years' course of post-graduate study in Europe, and was lately senior house surgeon at this famous English Hospital.

The recent graduating class at the Western Medical College number fifteen. Of these only those receiving house surgeonships are remaining in Ontario. Dr. Fisher is interne at St. Joseph's Hospital, Dr. Little is house-surgeon at the Asylum, and the appointments at the Victoria will fall to two of the following four who stood highest: Drs. McGugan, Fleming, Mason, and McNeil.

Dr. Harris of the Consulting staff of the Royal Infirmary, Manchester, is making a tour of inspection of American and Canadian hospitals for the purpose of acquiring information for use in designing the new building shortly to be erected for the institution he represents. He was the guest of Dr. J. D. Thorburn, at Niagara, on Sunday, May 4th., and has gone to Montreal to visit the Royal Victoria. Prof. Adami was a pupil of Dr. Harris, and Dr. Thorburn was an interne under him.

BOOK REVIEWS.

GENITO-URINARY DISEASES AND SYPHILIS.

For Students and Practitioners. By Henry H. Morton, M.D., Clinical Professor of Genito-Urinary Diseases in the Long Island College Hospital; Genito-Urinary Surgeon to the Long Island College and King's County Hospitals and the Polhemus Memorial Clinic, etc. Illustrated with half-tones and full page color plates. Pages XII-372. Size $9\frac{1}{2} \times 7$ inches. Price, extra cloth, \$3.00 net, delivered. Philadelphia; F. A. Davis Company, Publishers, 1914-16 Cherry street.

IN this work the author presents a comprehensive and succinct view of the pathology, symptoms and treatment of diseases of the class specified in the title. In the last decade great strides have been made in genito-urinary surgery, and all the later methods as well as those which are more familiar are here described and the instruments and apparatus represented by numerous illustrations. The descriptions are lucid and pointed, and will on that account be of the more practical value, though from the size of the book the reader naturally expects more detail and more discussion of those features which are as yet in the experimental stage.

There are twenty-four chapters in the volume, each one dealing with a specific division of the maladies met with in practice. There is a valuable section on syphilis, setting forth the diagnosis and treatment of the various lesions, and a convenient list of instruments required for office use is given. The press-work is particularly good and the cuts are numerous and well executed.

A. J. M.

SAUNDERS' AMERICAN YEAR BOOK.

The American Year-Book of Medicine and Surgery for 1902. A yearly Digest of Scientific Progress and Authoritative Opinion in all branches of Medicine and Surgery, drawn from journals, monographs, and text-books of the leading American and foreign authors and investigators. Arranged, with critical editorial comments, by eminent American specialists, under the editorial charge of George M. Gould, A.M., M.D. In two volumes—Volume I., including "General Medicine," octavo, 700 pages, illustrated; Volume II., "General Surgery," octavo, 684 pages, illustrated. Philadelphia and London: W. B. Saunders & Co. 1902. Per volume: Cloth, \$3.00 net; Half Morocco, \$3.75 net. Canadian Agents: J. A. Carveth & Co., Toronto.

THE publishers have again brought this book before the profession in two volumes under the natural divisions of Medicine and Surgery. The original design, namely, to present an epitome of new medical truths and suggestions which have been published during the year just completed, has been faithfully followed throughout the work, and a careful study will demonstrate that the high standard set in preceding volumes has been maintained.

At the first glance Volume I. appears to be familiar to the reader, for the editor has closely adhered to the order found in Osler's well-known "Practice of Medicine." In Volume II. the systems are followed out in their natural anatomical order.

The selection of articles suitable for such a work from the vast quantity of material at the disposal of the editor has been carefully done, and nothing appears which is not new and worthy of notice. On the other hand, the volumes are very complete, and it is very difficult to find any article omitted which should be present. Still, there are a few unavoidable repetitions, such as Ravenal on tuberculosis and Switalski on changes in the spinal cord after amputations.

It is impossible to do more than mention a few of the articles worthy of special notice. The proceedings of the English Congress on Tuberculosis prompts a splendid resumé of the views of Koch, Ravenal and other authorities on the relation between bovine and human tuberculosis. Very special attention is drawn to *Materia Medica* and the allied subjects, the progress in this department being evident from the quantity of recent literature of high standard which appears under this head. The x-rays and Finsen light receive a prominent place in medical and surgical volumes, and there are some excellent plates showing the results obtained from their use in lupus and epithelioma.

In Volume II. there is a good synopsis of recent literature on anæsthetics, spinal cocainization, and Schleich's method is very thoroughly discussed.

Throughout the work, the editorial comments are of the greatest service. They are not intended to be a check on every article printed, but they express the opinion of specialists on the recent methods and theories which are under consideration. They are, on the whole, just and conservative.

The book is one which will be useful to the general practitioner in order that he may keep in touch with the most recent ideas. To the specialist and to those engaged in research it will prove invaluable, rendering unnecessary a great deal of mechanical search for articles bearing on a particular branch of special work, while to every library of reference it will be a necessary addition.

The references are arranged in such a way that they can be readily found, the index is convenient and the printing and illustrations are in the usual excellent style of Saunders & Co.

J. W. M.

The Palisade Manufacturing Company, of Yonkers, N.Y., have sent out another of their elegant brochures in the form of a "Syllabus of Bacteriology," in which they give a succinct but graphic account of the

ordinary pathogenic germs, with directions for the preparation and examination of specimens, and for the differential diagnosis between different forms. Five full-page colored plates are given; and the booklet has all the characteristic artistic excellence and practical value that is distinctive of the publications of this firm.

MORPHINISM AND NARCOMANIA.

Morphinism and Narcomania from Opium, Cocaine, Ether, Chloral Chloroform. and other Narcotic Drugs; also the Etiology, Treatment, and Medicolegal Relations. By T. D. Croth-M. D., Superintendent of Walnut Lodge Hospital, Conn.; Professor of Mental Diseases, New York School of Chemical Medicine, etc. Handsome 12 mo of 351 pages. Philadelphia and London: W. B. Saunders & Co., 1902. Cloth \$2.00 net. Canada J. A. Carveth & Co.

THE special object of this work has been to group the general facts and outline some of the causes and symptoms common to most cases, and to suggest general methods of treatment and prevention. The object could not have been better accomplished. The work gives a general preliminary survey of this new field of psychopathy and points out the possibilities from a larger and more accurate knowledge, and so indicates degrees of curability at present unknown. The author shows his familiarity with his subject in the clear, concise, and admirable work which he has given to the profession.

His account of the history of the study of the morphine habit is very interesting. The account as to how the habit is acquired in most cases is also instructive. He deals fully with the nerve side of these cases, both is a cause and result of the habit. He is hopeful in a matter of treatment.

CLIMATOLOGY AND HEALTH RESORTS.

Vols. III and IV of "A System of Physiologic Therapeutics," edited by C. S. Cohen, A.M., M.D. These volumes are by F. Parkes Weber, M.A., M.D., F.R.C.P., Physician to the German Hospital, Dalston, and Guy Hinsdale, A.M., M.D., Secretary of the American Climatological Association. Illustrated with maps. Philadelphia; P. Blakeston's Son & Co.

THESE two volumes, comprising together some 750 pages form a rich storehouse of information useful to the practitioner in reference to the important matters of climatology, health resorts, mineral springs, etc. Volume III deals first with certain general topics as the composition of the air, dust and micro-organisms, temperature of the air and factors modifying it, atmospheric electricity, humidity, altitude, soil and general topography, etc.

Part II of Volume III discusses more in detail ocean climates and sea voyages, giving specific information in reference to voyages from

England and from Atlantic and Pacific ports in America to resorts in different parts of the world, pointing out the advantages and disadvantages of each and their indications in the management of various diseases. Then follows detailed descriptions of European resorts and their adaptability to the treatment of different affections. The contra-indications and drawbacks of these resorts are also dealt with. Volume IV deals similarly with the health resorts of Africa, North, South and Central America and the neighbouring islands, Australasia and the Hawaiian Islands. It would be difficult to overestimate the value of the information given in enabling one to choose a suitable place at different times of the year, in the climatic treatment of different diseases. The numerous maps illustrating and explaining the text will also prove of much advantage. The remainder of Volume IV is devoted to the discussion of the general management of patients at health resorts and the selection of suitable resorts for the treatment of rheumatism, tuberculosis, hay-fever, cardiac diseases, skin diseases, certain nervous diseases, etc. This part of the work is essentially practical and contains information of the greatest value to the clinician. To the practitioner who has frequently to select resorts to which he may advise patients suffering from various diseases to go, these volumes will prove invaluable as works of reference.

H. B. A.

HISTORY OF CREMATION.

A PAMPHLET published by the Mount Royal Cemetery Crematorium, of Montreal, entitled "Cremation, its History, Practice and Advantages," is to hand. The pamphlet contains about 40 pages, very tastefully gotten up, bound in white linen boards and containing a number of half-tone illustrations of the rooms and equipment.

The history of cremation in Canada dates to 1898, when Mr. J. H. R. Molson, in his will, left the sum of \$10,000 to the Mount Royal Cemetery for the establishment of a crematorium, but on account of legal objections the trustees were obliged to decline its acceptance. In 1900, Sir William Macdonald offered the funds necessary for the erection and equipment of such a building, the cemetery accepted the trust and legislation was secured from the Quebec Legislature, to the following effect: "The company may dispose of the bodies of deceased persons by cremation . . . subject to conditions as follows: (1) That the deceased at the time of his death is entitled to be buried in Mount Royal Cemetery and has expressed a desire either in his will or in a codicil thereto, that his body be cremated; (2) That a medical certificate similar to that required for burial has been produced; (3) Provided also that in addition to the above conditions the Company shall not by cremation or incineration dispose of the bodies of persons who have died a sudden or violent death, without permission from

the Coroner of the district in which such person died. These conditions are common to the regulations governing all such institutions."

At present no charges are made, as the funds provided cover all expense. The building is well suited for the purpose, having been constructed by an architect well acquainted with the requirements, it is designed to make the æsthetic conditions irreproachable, and its working is surrounded by all possible safe-guards. Arrangements for service at the cemetery can be made, and the final disposition of the cinereal remains rests with the relations of the deceased. Altogether the institution seems to be a creditable one and its establishment marks a distinct advance in Canada.

A. J. M.

PROGRESSIVE MEDICINE.

Progressive Medicine. A quarterly digest of advances, discoveries, and improvements in the Medical and Surgical Sciences. Edited by H. A. Hare, M. D. and H. R. Mc Laud's M. D. Vol. 1 March 1902. Lea Bros & Co. Philadelphia New York.

THIS volume deals with the surgery of the head, neck and chest; infectious diseases as acute rheumatism, pneumonia, and influenza; diseases of children. Pathology; Laryngology and rhinology; otology.

This quarterly volume of the progress of medicine and surgery, like its predecessors, is well written, and contains much valuable information. We can highly recommend this series.

J. F.

A PRACTICAL MANUAL OF INSANITY.

A practical Manual of Insanity. For the Student and General Practitioner. By Daniel R. Brower, A. M., M. D., LL. D., Professor of Nervous and Mental Diseases in Rush Medical College, and in the Post-Graduate Medical School, Chicago; and Henry M. Bannister, A. M., M. D. formerly Senior Assistant Physician, Illinois Eastern Hospital for the Insane. Handsome octavo of 426 pages, with a large number of full-page inserts. Philadelphia and London: W. B. Saunders & Company, 1902. Cloth, \$3.00, net Canada, J. A. Carveth & Co.

THIS work, is an intelligible, up-to date exposition of the leading facts of psychiarty, and will be found of service, especially to the busy practitioner unable to yield the time for a more exhaustive study. The work has been rendered more practical by omitting elaborate case records and pathologic details. Certain special features of the work, are the mention of the forms of insanity not usually met with in hospitals, and the including of a comparative table of classification and a chapter on some of the ethical questions relating to insanity as they may arise in the practice of medicine.

The volume is gotten up in an attractive form. The illustrations are good, and aid the descriptions in conveying a correct impression of the different types of insanity.

We recommend the work of those who require a manual on insanity.

J. F.

TRADE NOTES.

It is an important point in the treatment of pneumonia to reduce the dyspnea and irritating cough. This may be done without internal medication, and without disturbing the patient, by the use of vaporized cresolene. Vaporized cresolene has a marked sedative influence on all diseases of the respiratory organs attended with irritation and a spasmodic element.

Henry K. Wampole & Co. have opened a branch office in Montreal, No. 20 St. Alexis St. (over the Bank of Ottawa) which will be in charge of their representative, Mr. R. E. Pineo. It is the intention to carry but a limited stock in this office, that small city orders for immediate delivery, can be promptly handled.

During la grippe and afterwards the experience of thousands of physicians proves the value of Angier's Petroleum Emulsion. It braces the patient, and enables him to withstand the ravages of the disease and guarantees him freedom from the subsequent exhaustion and sequelæ. Angier's Petroleum Emulsion relieves immediately the cough and symptoms of respiratory irritation, palliates the nervous symptoms and hastens convalescence.

In the *British Medical Journal*, No. 197, p. 880, Thomas W. M. Blake, M.D., St. Andrews M.R.C.S., Eng., says: "Many patients with consumption or other wasting diseases appear to tolerate its (Angier's Petroleum Emulsion) use when cod liver oil cannot be tolerated. Instead of setting the stomach in revolt, as the latter will often do, it appears to soothe the mucus membrane and produce a more natural tone and power of assimilation. Petroleum does not irritate the nerves supplying the mucus membrane of the stomach, but doubtless cleanses away the foul mucus and leaves the digestive organs in a more healthy condition to perform their functions naturally. Nutrition is improved, therefore the condition of the weakened and diseased lungs improves."

A valuable Remedy in Intestinal Irritation, Louis Leroy, A.M., M.D., of Nashville, Tenn., writing in the February number of the *Medical Examiner and Practitioner* states that while Terraline has been restricted in its use largely to cases of bronchial inflammation or in allaying troublesome coughs, or for its nutritive value in conditions of emaciation, it seems that one of its most useful actions and broadest fields has been largely overlooked. This is the soothing effect which it has upon the mucous membrane of the gastro-intestinal tract. The oil is perfectly bland and tasteless and so thoroughly refined that it lacks the irritating fatty acids which are nearly always present in any of the oils used for internal administration. These qualities permit its administration in good

sized doses, over prolonged periods of time without causing digestive disturbances, eructations or sur'eting the patient. This will be found to afford relief to a marked degree in cases of tubercular ulceration of the intestine, and in the pain of gastric ulcer. In pyloric carcinoma, with stenosis, a moderate dose administered before meals seemed to facilitate the digestion and favor the ready passage of the food through the pylorus, and cause some remission in the pain.

In one case of gall stone which recently came under my care, Terraline was substituted for olive oil with the most pleasing results. The patient took the large amount recommended (16 ounces) more readily than would have been the case with olive oil and passed safely through the attack. Since the first attack she has been kept on tablespoonful doses three times a day for two months without any inconvenience, and not expressing any distaste for the remedy. There has so far been no indications of a return of the trouble.

Terraline also has proved in our hands a pleasant adjunct in the administration of cathartics. With these the amount of griping is very much diminished, and larger doses can be given, and a very thorough effect obtained without the unpleasantness which would otherwise be produced.

When used for its sedative effect on the gastro-intestinal mucosa it can be given in larger doses than one usually recommended when its effect upon the respiratory tract is sought. Tablespoonful doses, or even ounce doses three times daily will be found to be well borne. As the oil is of mineral origin and chemically nearly as stable as paraffin, it may be combined with any of the other remedies desired, directly if they are mixable with the oils, separately if not, but with the assurance that each will have its own therapeutic effect without detriment from the other.

The results which we have had in the past with Terraline indicate quite a field of usefulness which can readily suggest itself from the foregoing.

GUDE'S PEPTO-MANGAN.

An interesting suit occurred a short time ago in the State of Massachusetts between the M. J. Breitenbach Company and Henry N. Thayer & Company over the use of a term and wrappers, by the latter company, that appeared to infringe upon the rights of the former company. The contention of the Breitenbach Company was upheld to the effect that Henry N. Thayer & Company were restrained from using wrappers resembling those employed in putting up Gude's Pepto-Mangan; and also from using the name "Peptonate-Manganese." This decision is an important one for the Breitenbach Company and their rights in the preparation known as "Gude's Pepto-Mangan."

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THE PRESIDENTIAL ADDRESS DELIVERED BEFORE THE TWENTY-SECOND ANNUAL MEETING OF THE ONTARIO MEDICAL ASSOCIATION.

By N. A. POWELL, M.D., Toronto.

GENTLEMEN,—To utter words of kindly greeting is always a grateful task, and to-day it becomes my pleasant duty to welcome you to the 22nd Annual Meeting of the Ontario Medical Association. To all of you—to our guests, to old friends and to those who are with us for the first time, I offer a greeting which is none the less sincere because it happens to be official.

The Ontario Medical Association may be fairly taken as representative of what is best and most progressive in the profession of this Province. This being so, I would be an ingrate indeed if I did not, first before all else, thank you for the evidence of good-will shown in your having bestowed upon me for this year the office of President. Being deeply sensible of this kindness, the selection of a topic to which I might with advantage invite your attention, has weighed heavily upon me. If one could have been found the intrinsic interest of which would more than have attoned for my own imperfect presentation of it, then indeed I should have felt a measure of contentment. I can claim no marked success in the quest for a subject such as this, but a number of topics seem to have sufficient interest to justify their discussion in your presence. The first of these has to do with the bearing of recent and of pending legislation, Dominion or Provincial, upon the welfare, the rights and the prospects of Ontario physicians. Before entering upon any consideration of these matters it is just as well that we should put aside the modesty with which we have for a long time been tongue-tied and claim boldly that in regard to the regulating of the study and practice of medicine by legislation, this province has been and still is in advance of any other province or state on this continent. More than this, our methods of conducting examinations by a Board representing all the interests concerned and having the sole power to confer licenses for practice, while it has served as a model for the organization of many State Boards, is still better than any other. Our examinations have been and are more exacting and searching and our standards are higher than those of any other

State or Province. The influence for good which has thus been exerted cannot easily be computed. It is quite true that *upon paper* examinations have been set which would appear to present greater difficulties for students, but the percentage required for a pass and the proportion of candidates rejected have uniformly been lower than has obtained with us. Numberless students who, after being graduated here, have passed some one or more of the better class of State examinations in the United States, or have taken degrees in our own Mother Country, testify to this fact. Their uniform report is that our examinations present greater difficulties than any other. The net result of the operation of the Ontario Medical Act of 1869, and of amendments thereto, has been that there is to-day, in this Province, a profession of which we can justly feel proud; and that, scattered over the world, are countless progressive and successful physicians who, having been trained here, owe no small measure of their success to the fact that, for more than thirty years, the Medical Colleges of this Province have had to teach up to the requirements of a rigid State examination. We are proud of this record as a record, but what has been done is of importance mainly as indicating what better results may still be attained. Where we stand on any question or what we have done, is of less importance than the direction in which we are moving. In medicine we are facing a wonderful to-morrow! The measureless growth of its sciences within recent years, impose upon us grave responsibility, and we cannot afford to "mark time," while other and even less favored states or provinces are progressing.

Claiming all that I have for the Ontario Medical Act and for its influence upon the profession here, I am far from claiming that it is incapable of improvement, or that its provisions have always been wisely and judiciously administered. A long series of indictments could be laid against successive Medical Councils. If I were to undertake even an enumeration of the mistakes, the short-comings and the follies of these bodies, I should have no time to discuss them. It is the part of wisdom to learn from the mistakes of others, and, recognizing such mistakes, let us try for the future rather to avoid and correct them than to waste time in harping up them. During the past winter, a Bill to amend the Ontario Medical Act was introduced into our Provincial Legislative by Dr. Jessop. In brief, this Bill asked that the Medical Council should be composed entirely of the Territorial representatives, and that the Universities, the Medical Colleges and the Homeopathic faction should no longer have direct representation. Although without mandate from you upon the matter, I felt called upon to oppose this Bill for reasons with most of which I need not trouble you just now.

Admitting, for the sake of argument, that the Homeopathics are over-represented, we still must remember that when our Act was passed, a direct bargain was made with these gentlemen and that it should be carried out in good faith till changed by mutual agreement. Those who trade on the name of Hahnemann, or who, at a greater or less distance, follow his vagaries, are diminishing in number and in influence and for



N. A. POWELL, M.D.,

PRESIDENT ONTARIO MEDICAL ASSOCIATION.

us to drive them into making application for separate incorporation and into the position of an oppressed minority, would be foolish in the extreme. As to the right of representation of the Universities, actually engaged in the educational work of the country, and of the Medical Colleges, there can be no question. It does seem to me, however, that the members of the Medical Council who represent charters in abeyance, or Universities having no direct interest in medical education, should no

longer have the right to appear at the Council Meetings and that our Act should be amended so as to reduce the membership and expense to this extent.

Dr. Jessop's Bill was thrown out with, I believe, a strong feeling on the part of the House Committee which dealt with it, that some such provision as this should become operative in the near future.

A measure of much greater importance to us is the one promoted in the Dominion House by Dr. Roddick, and providing for inter-Provincial registration. This measure has passed the House, been amended in the Senate and received vice-regal sanction. Members of this Association will recall the fact that Dr. Roddick strongly advocated his Bill from this platform two years ago. They may not as easily recall the fact that I objected to the measure as being manifestly and disastrously unfair to Ontario. As then put forward, the Bill gave as large a representation to Prince Edward Island, to Alberta and to other provinces with a few score of practitioners as to this province with over 3,000 registered practitioners.

I am glad to say that the protest we raised was effectual and that the Bill was re-drawn with the representation arranged upon a more equitable basis.

An examination of the bill, as it finally passed the Senate, leads me to fear that it has been emasculated, and is now potent, neither for good nor harm. I may be wrong in this estimate; and, since the main object of the bill is such a desirable one, I should be glad to find myself mistaken. What we, in Ontario, must guard with jealous care, is the standard which we now have. There must be no leveling down to meet the needs of schools in any other part of the Dominion. Pledges will not suffice. We must have the power to prevent its being done; and, if we have such power and use it, I am exceedingly doubtful if we shall ever see the Act in operation.

During the Session of the House of Commons just closed the Canada Evidence Act of 1893 was amended so as to limit to five the number of expert witnesses who may be called, on either side, in civil or in criminal cases when the consent of the judge for the calling of a larger number has not been asked for and obtained, before beginning the examination of the first witness to give opinion evidence. This, in my judgment, is a sensible enactment, tending to lessen but not competent to remove certain abuses which His Honor Judge McDougall may touch upon in his address before you to-night. It will have some tendency to lessen the advantage which always goes with a long purse in litigation, but it appears to run counter to the statement which we have from the very highest of authorities that "in the multitude of councillors there is safety."

The development and extension of Cottage Hospitals in very many of the cities and larger towns of Ontario is a movement in the right direction, and a natural outcome of the more complete and practical training which our students are now receiving. It has greatly increased the number of positions as house surgeon, now available, and these positions become year by year a more important factor in medical education. The status of the hospital interne in Ontario is a live subject, and, in order that it may be studied from a view-point new to most of us, I have asked a gentleman who is still a hospital resident, and who is filling his position with advantage to his hospital and credit to himself, to read a paper on the subject at this meeting. I hope that he will take up the appointment of graduates in medicine, who, on account of our fifth or so-called clinical year, are still without the license to practise, that he will discuss the relation of these gentlemen to the administration of anæsthetics, and, most important of all, that he will consider the advisability of the appointment of a certain proportion of the house surgeons of our larger institutions every six months, with a graded service of eighteen months, instead of our present unsatisfactory plan of appointing all together once a year, and for one year only. In a recent visit to some of the surgical centres of the neighboring Republic I was impressed by the fact that no surgeon whom I saw at work was doing better operative surgery than is being done here from day to day, but that the assistance given and the "team" work, if I may borrow a term from the campus, was far and away better than anything we see here. We have as good or better men to select from, but the present plans of appointment and terms of service do not give them half the chance they should have. Besides that, every operator is handicapped by having as his chief assistants men who have just been appointed, and by losing them when they are becoming trustworthy and helpful. A graded course, with responsibility increased as experience is gained, and with the men who are lazy or inefficient weeded out at the end of the first six months, would be better for the residents themselves, infinitely safer for the patients, and would help the surgeons who are operating to obtain the results they individually strive for. The first six months of such service would naturally be spent in performing the less responsible duties of the position, and during this time, in my opinion, the administration of anæsthetics should be placed in other hands.

In another respect we appear to be falling behind the procession. While here in Toronto as I know, and in Kingston and London as I fully believe, excellent teaching is given to undergraduates in medicine, we have so far failed to make adequate provision for post-graduate instructions. As a consequence, gentlemen desiring review courses have been

going in large numbers to Manhattan Island and to certain large towns in Pennsylvania, Maryland and Illinois. We have the men, the hospitals and the material to meet all needs but they are not utilized as they might be. In the past professional jealousy was so keen and controversy so bitter that success would have been hardly a possibility. Now *Laus Deo* we know each other better and out of mutual respect can come united and successful action. True, we are given to criticizing each other a good deal; but, with rare exception, this is in the spirit of rivals rather than of antagonists. Old animosities are dying out and are not being replaced.

"The teeming future

Glorious with visions of a full success."

Holds for us a grand, united and splendidly equipped school of medicine doing for the students of a coming time what in an imperfect and patchy way we are striving to accomplish now.

I have faith in that future and in the men who shall sway its destinies and believe that with absolute fairness to all real interests the wisest course can be found and followed.

The reaper whose name is death, has not been idle in the year that has passed since we last met. Your Committee on Necrology will present the names of certain of our members who rest from their labors and whose memories we honor. Permit me to refer to two only of the number: Dr. John Coventry was President of this Association in 1899 and well and worthily did he perform the duties of his office. He died from the disease which cuts off, in the midst of their greatest usefulness, so large a number of physicians,—from an acute pneumonia. Leslie M. Sweetnam, in the full tide of professional success and with an ever widening circle of patients and of friends who appreciated his sterling worth and who loved him for what he *was* as well as for what he *did*, fell a victim to blood poisoning received in operation—I had almost said to a wound received in action.

In one of the songs which Homer chanted when the world was young we hear Idomeneus crying to Hestor:

"Worth many a life is his
The skillful leech, who knows with practiced hand
To extract the shaft and healing drugs apply."

If this were true when men were wild and when human resources were few, how shall we estimate the value to the communities in which they practice, of wise and prudent physicians, honest to their own consciences and armed with all the aids which advancing science has placed in their hands. Looking further afield we have to regret the death of a man, who, with the possible exception of the elder Gross, did more for the development of surgical pathology, than any other surgeon in the new world. Christian Fenger was your guest three years ago and those who

met him only at that time will join with all who knew him more intimately in the belief that he has made a lasting impression upon surgical science. Recalling the fact that surgical pathology has progressed more rapidly than any other department of medicine—that, as has been truthfully stated, it has made more progress in the last thirty years than in the previous thirty centuries, we can appreciate the splendid work which this great investigator and teacher was able to crowd into thirty-five years of professional life. His work and the work of others like him will live. Their best knowledge will continue to be utilized for the benefit of mankind.

“Were a star quenched on high,
For ages would its light
Still travelling downward from the sky
Shine on our mortal sight.

So when a good man dies,
For years beyond our ken
The light he leaves behind him lies
Upon the paths of men.”

The interest you have always shown in the Ontario Medical Library and the financial aid you have from year to year given towards the up-building of a working library for all the physicians of this Province, leads me to mention that after the death of Dr. L. M. Sweetnam, his friend and our friend Dr. Howard A. Kelly, of Baltimore, authorized me to select from Dr. Sweetnam's extensive library every book not already in the Ontario Medical Library and these, to the number of about three hundred, he purchased and presented to us. He did this in order that the collection should be kept together and should form in some degree a Memorial Library. Dr. Kelly's action was a pleasant surprise to many who did not know him—all who have the pleasure of knowing him intimately recognized it as just another large-hearted generous act such as he is continually doing. Dr. Osler's establishment of the Bovell Memorial Library in honour of an old teacher of his, was along the same line and may have prompted this later gift. I am glad to be able to tell you that through the generosity of the President of the Library Association, Dr. J. F. W. Ross, a catalogue of the principal works now upon our shelves is being printed and copies will shortly be sent to members of this Association. They will then be enabled to see what an extensive library has been accumulated and should remember that these books are at all times available to them without expense.

The continued presence of smallpox in Ontario, the large number of reported cases and their wide distribution are causes of regret, of alarm and of humiliation. Of regret on account of the loss of life, the direct expense and the indirect interruption of bread-winning involved; of alarm, because the end of the outbreak does not seem to be as yet in

sight, and of humiliation, because we appear to have taught the public, less faithfully than our fathers did, the demonstrated fact that this disease can be controlled, and in times of epidemic can only be controlled, by vaccination and re-vaccination. Two of the factors which increase the difficulty of stamping out smallpox undoubtedly are humbug vaccination and a failure to make the differential diagnosis between this disease and chicken-pox. In regard to the first, let me cite the case of a girl, exposed to so-called chicken-pox occurring in a man who had come here from Cleveland. This man lied to his physician about his symptoms. I cannot use Browning's euphonism and say "He fell from truth in climbing toward it." He knew that he had been exposed to smallpox and that he had the symptoms of that disease, but to avoid being placed in quarantine, he lied, and as a result his physician took smallpox and died from it. The girl referred to and one other member of a large family had certificates of vaccination but no scars and both took the disease. Both had been "vaccinated" by a physician who did not believe in Jenner's discovery and who had used the uncharged ends of ivory points in performing the operation. Justice fails when a man who spreads smallpox is not made to atone, so far as he can for his offence, by serving a long term in the penitentiary. May I here raise the question of the necessity for a standard certificate of vaccination, stating the result obtained in each case, and may I in this connection also ask if the time has not arrived for placing chicken-pox on the list of diseases which must be reported to our medical health officers.

It is a matter for mutual gratulation that we have, now available in our gloriously health-giving Muskoka region, a hospital for the free treatment of 50 patients with incipient Phthisis. If my own connection with this and with its sister institution, the Muskoka Cottage Sanatorium had been less intimate, I might have been tempted to say more regarding them. Old men are said to talk of what they have done, children of what they are doing and fools of what they are going to do. As I am no longer a child, have not as yet begun to grow old and cannot believe you would have placed one of the third class in the chief office of this Association, I am precluded from entering into any detailed statement at present. Instead let me be content with extending, on behalf of the Board of Trustees of the National Sanatorium Association and of my associates of its Medical Staff a cordial invitation to each one of you to visit Gravenhurst at your earliest convenience and to see for yourselves just what is being done. Let me assure you that the "latch strings" there always hang outside for the members of this Association.

Perhaps from a professional standpoint the most regrettable incident of the year was the simultaneous publication in all of the Toronto daily

papers as advertisements of the so-called " Ramage process " for the cure of Phthisis as " demonstrated " as a private hospital here. The hospital in question is conducted by two of the members of this Association and the advertisements to which I refer appear to set at defiance the code of ethics which we have adopted and by which we profess to be governed. I would gladly have passed over, in silence and in sorrow, these publications if it were not for the conviction that by so doing I would have shewn a cowardly dereliction of duty. The medical men to whom I have referred are engaged in active practice and reputed to be wealthy. By their direct connection with flagrant advertisements of this character, they appear to have established a *prima facie* case against themselves. If they are right in what they have done and are doing, they should be given an opportunity of proving it and of removing the stigma that now rests upon them. The matter is one for consideration by our Committee of Ethics, and to this body I now officially transfer it in the full belief that it will be dealt with fairly, courageously and in a spirit of professional self-respect.

Before closing it is only right that I should express my deep sense of obligation to the gentlemen who have labored so earnestly to make this meeting a success. In a time of political excitement like this I may refer to them as my Cabinet, Dr. Parsons being Secretary of State ; Dr. Fotheringham, Minister of Education ; Dr. J. M. Cotton, Minister of Public Works and Dr. A. R. Gordon, Chancellor of the Exchequer. How efficiently they have labored will never be known, because they are far too modest too speak of it themselves and much too prudent to let the real facts escape lest I should lose all credit for the results attained.

I am sure gentlemen that we have all watched with keenest interest the movements of the armies of our Empire which in Southern Africa have been making history. We have felt an honest pride in the bravery and fighting skill of the thousands who have gone from Canada to aid the Mother Land. Only a few days ago we were thrilled with the story of how Canadian surgeons at Hart's River for a whole day long and under a withering fire of shot and shell went on with the work of caring for the wounded. While we unite in profoundest thankfulness to Almighty God that the end of this bitter struggle has come, we exult in the part taken by our own country in conquering a peace. We have fought a good fight ! we have kept the faith ! what has been gained ?

" Do you not see your Greater Britain's soul
Has come to birth !

Do you not hear above the sighs—the song
From all those outland hearts which peace kept dumb ;

" There is no fight too fierce, no trail too long
When love cries ' Come ' "

AN IMPORTANT MALPRACTICE DECISION.

WE have much pleasure in submitting to our readers the able judgment of Justice Falconbridge on the case of *Town v. Drs. D. and A. Archer*. This is, perhaps, the most exhaustive and important medico-legal decision that has ever been handed out in this country. We trust it may be of much service in settling the questions of what a medical practitioner is supposed to know and do. We commend its careful perusal to our readers.

Editor LANCET.

IN THE HIGH COURT OF JUSTICE.

TOWN v. D. ARCHER AND R. ARCHER,

Tried at Toronto non-jury Sittings.

N. F. Paterson, K.C., and Sharpe, for plaintiff.

Aylesworth, K.C., J. H. Moss and W. H. Harris, for defendants.

Judgment delivered by Hon. W. G. Falconbridge, Chief Justice of the King's Bench, Province of Ontario.

This is an action brought by the plaintiff, who is the wife of a farmer residing in the County of Ontario, against the defendants, who are physicians and surgeons residing and practising, in partnership, at the Village of Port Perry, in the same county.

In the month of May, 1899, the plaintiff fell and sustained injuries in her left ankle and foot, and the defendants were retained as surgeons, for reward in that behalf, for the purpose of treating the plaintiff for such injuries.

The plaintiff charges that the defendants negligently, improperly and unskilfully treated the plaintiff for such injuries, in consequence whereof the plaintiff has been suffering, and still suffers, pain, and her foot has become distorted and twisted so that she has been rendered permanently lame, and her health has become otherwise impaired thereby.

The defendants plead, in their statement of defence, that they are both duly registered members of the College of Physicians and Surgeons of Ontario; that the defendants were not retained to treat the plaintiff, as alleged, but that defendant D. Archer was called in after the accident to the plaintiff, as a surgeon to set the plaintiff's ankle, and, with the assistance of another surgeon, did set the same in a proper and skilful manner, and that said defendant D. Archer was thereupon discharged by the plaintiff from any further attendance in the case. They also plead that the injury complained of by plaintiff was not caused by any negligence of the defendants, or either of them, but is due solely to the negli-

gent manner in which the plaintiff's injuries were treated by herself, subsequently to the treatment of her ankle by the defendant D. Archer. And the defendants further set up as a defence, that the plaintiff's ankle was set by defendant D. Archer more than a year before the commencement of this action, and that the plaintiff's claim, if any, is barred by R. S. O. ch. 176, section 41.

The case was tried before me on the 18th, 19th, 20th and 21st of February last, and argued on the 27th of the same month. I have deferred judgment until now, not because I had any doubt as to what the disposition of the issues ought to be, but because the importance of the case to the medical profession, and to the community at large, seemed to require that I should make a more formal and deliberate deliverance of my opinion than would be conveyed by an off-hand judgment pronounced at the trial.

The condition of the plaintiff, who is a woman of sixty years of age, at the time of the trial is fully set out in the report of the surgeon appointed by Order of the Court to make a physical examination. It is as follows: "Report on the Physical Examination of Mrs. Narcissa A. Town of Saintfield, Ont."

"She states that she sustained an injury of the left ankle on May 17th, 1899. Examination by Order of the Court, Sept. 28th, 1901. Condition on examination:

Length of Tibia, same on both sides.

Length of Fibula, same on both sides.

Circumference of the left leg, 1 inch less in calf than that of right.

Circumference above knee, equal.

The distance from the external Malleolus to the ground is increased, and that from the internal to the ground slightly diminished. This causes the foot to be turned inwards, so that in the erect position the left side of the sole of the foot reaches the ground, while the inner side is raised about an inch. This is more marked at the toe than at the heel.

There is a marked prominence of bony character in front and to the outer side of the ankle joint. This is clearly the head of the Astragalus. The body of the Astragalus can be felt distinctly behind this, somewhat in front, and to the outer side of its normal position.

The patient complains of pain on pressure over this part and also at the inner side of the foot below the malleolus (ankle).

There is but little thickening of the soft parts.

No other injuries are present.

Conclusions:

(1) There has been, and still is, a dislocation of the Astragalus, forward and outwards.

(2) There is no sign at present of there ever having been fracture either of the Tibia or Fibula.

(3) Result: the pain will perhaps become less on using the foot, and the displaced parts will gradually become accustomed to their altered relations; but the deformity resulting from the dislocation will be permanent.

(Signed) "GEORGE A. PETERS, M.B., F.R.C.S., Eng."

The question then for trial, is whether the condition of the plaintiff to-day is due to the want of care and skill of the defendants; or, (2) whether the plaintiff's own want of care has resulted in the injury, or whether she has by her own conduct aggravated her injuries; or, (3) whether her present condition is a result which might reasonably be looked for, and which has come to pass having regard to her age and to the nature of the injury, even with the best degree of care and skill of a medical attendant, and the best degree of care and obedience to the doctor's orders on the part of the patient and of those in attendance on her in her own household.

Although I consider it due to all the parties concerned, to pass upon the merits of the case, yet I am bound to give an opinion upon the defence which has been raised under the Statute, of the limitation of the action by reason of the lapse of time. The Statute R.S.O. ch. 176, (The Ontario Medical Act, section 41), is as follows: "No duly registered member of the College of Physicians and Surgeons of Ontario shall be liable to any action for negligence or malpractice by reason of professional services requested or rendered unless such action be commenced within one year from the date, when, in the matter complained of, such professional services terminated."

The writ herein was issued on the 21st day of December, 1900. If, therefore, the defendants' professional services continued up to the 21st day of December, 1899, the statute is not a good defence. The defendants contend that their professional services terminated with the visit of the 12th June, 1899, and that any visits paid by them after that date were friendly visits and not professional ones. Plaintiff contends that she called, as a patient, on defendants at their office on the 21st December, 1899, and on the 11th January, 1900; and that the defendants' professional services did not terminate until the last mentioned date. There is a conflict of testimony between the plaintiff and defendants as to the real date of the last visit but one; the defendants contending that it was not on the 21st December, but on the 21st November, and backing up their statement by evidence of their different professional engagements and journeys on that day, and on the day preceding. However that may be, I

am decidedly of opinion that when the plaintiff went to see the defendants on the last two occasions she did not go as continuing the relation of patient and medical men, but as a person who had a grievance and who was dealing with the defendants more or less at arm's length. She had called in another doctor (Parke of Saintfield) to look at the foot, on the 13th December, 1899; and she consulted a solicitor during the same month. Consulting another surgeon, in the absence of, and without notice to or leave of the surgeon in charge, is an indication of want of confidence in the latter, and would of course be treated by him, when he came to know of it, as tantamount to a dismissal of him by the patient. I am clearly, therefore, of the opinion that the defendants can claim the benefit of the Statute and that on this ground alone the action fails.

But, as I said before, I deem it incumbent upon me to dispose of the other issues in the case.

The defendants are practising in partnership, but David Archer was the partner who was in charge of the case, and it is his alleged negligence which is in question here. But where physicians or surgeons engage in practice as partners all are liable for malpractice by any member of the firm.

Malpractice (*Mala praxis*) is bad or unskilful practice by a physician or surgeon, whereby the health of the patient is injured. Negligent malpractice means gross negligence and lack of the attention which the situation of the patient requires; as if a physician while in a state of intoxication should administer improper medicines; that is not charged here, but what is charged is ignorant malpractice, namely, a course of treatment which was calculated to do injury, which has done harm, and which a well educated and scientific surgeon ought to know was not proper in the case.

In 1697 the Court of King's Bench, (Temp. Chief Justice Holt) resolved in Doctor Groenvelt's case, which Lord Raymond reports at page 214 in the quaint language of the day, "That mala praxis is a great misdemeanour and offence at common law (whether it be for curiosity and experiment or by neglect) because it breaks the trust which the party has placed in the physician, tending directly to his destruction."

The burthen of proof is upon the plaintiff in an action of this character, to shew that there was a want of due care, skill, and diligence on the part of the defendant, and also that the injury was the result of such want of care, skill and diligence. The general rule of skill required of a medical practitioner was thus ably summed up by Chief Justice Erle, in *Rich v. Pierpont*, 1862, 3 F. & F., at page 40; "A medical man was certainly not answerable merely because some other practitioner

might possibly have shown greater skill and knowledge; but he was bound to have that degree of skill which could not be defined, but which in the opinion of the jury was a competent degree of skill and knowledge. What that was the jury were to judge"

"It was not enough to make the defendant liable, that some medical men of far greater experience or ability might have used a greater degree of skill, nor that even he might possibly have used some greater degree of care. The question was, whether there had been a want of competent care and skill to such an extent as to lead to the bad result."

Chief Justice Tindal, in *Lamphier v. Phipos*, 1838, 8 C. & P., at page 479, charged the jury in the following clear and succinct terms: "What you will have to say is this, whether you are satisfied that the injury sustained is attributable to the want of a reasonable and proper degree of care and skill in the defendant's treatment. Every person who enters into a learned profession undertakes to bring to the exercise of it a reasonable degree of care and skill. He does not undertake, if he is an attorney, that at all events you shall gain your case, nor does a surgeon undertake that he will perform a cure; nor does he undertake to use the highest possible degree of skill. There may be persons who have higher education and greater advantages than he has, but he undertakes to bring a fair, reasonable and competent degree of skill; and you will say whether in this case the injury was occasioned by the want of such skill in the defendant."

It has been held in some American cases that a locality in which a medical man practises is to be taken into account, and that a man practising in a small village or rural district is not to be expected to exercise the high degree of skill of one having the opportunities afforded by a large city; and that he is bound to exercise the average degree of skill possessed by the profession in such localities generally. I should hesitate to lay down the law in that way; all the men practising in a given locality might be equally ignorant and behind the times, and regard must be had to the present advanced state of the profession and to the easy means of communication with, and access to, the large centres of education and science. For example, Port Perry is a two hours' journey from a city of a quarter of a million inhabitants, with three medical colleges and numerous hospitals.

There is no implied warranty on the part of a physician or surgeon that he will effect a cure. He can be treated as an insurer or guarantor of success only if there be an express agreement to that effect.

If a surgeon treat a patient improperly, he is liable to an action even though he undertook *gratis* to attend to the patient.

If a patient by his own conduct, or disobedience of orders, has

aggravated his injuries to an extent that will account for the mischief complained of, he cannot recover damages from the medical man, having regard to the general law of contributory negligence. The burthen of proof to shew contributory negligence is, of course, on the defendant in an action for malpractice.

The failure on the part of a medical man to give a patient proper instructions as to the care and use of an injured limb is negligence for which the medical man is liable for injury resulting therefrom.

These are the principal propositions of law involved in the consideration of the present case.

In addition to the cases cited above, I refer to *Slater v. Baker*, 1767, 2 *Wilson*, 359; *Carpenter v. Blake*, 60 *Barbour*, 488; same case, 50 *N.Y.* 696; *Beven*, *Negligence* 2nd Ed. page 1390 *et seq.*; *Smith on Negligence*, *Blackstone* ed.* 195 *et seq.*; *American & English Encyc. of law*, 1st ed., vol. 14, page 76 *et seq.*; *Bouvier Law Dictionary*, *sub tit.* Physician.

Actions of this kind were, as a matter of course, formerly tried, both here and in England, by a jury; and it was the almost inevitable result that juries, perhaps innocently and unconsciously, looked more favourably upon the case presented by the patient than on that presented by the physician or surgeon. To remedy this condition of affairs, and not to leave doctors entirely at the mercy of juries, the courts in this country early became astute to lay down limitations and restrictions on the actions of the Twelve; or, rather as to what matters ought to be left to them to deal with. For example, in 1869 the Court of Queen's Bench held in *Jackson v. Hyde*, 28 *U.C.R.* 294, that in an action against a surgeon for negligent malpractice, where the evidence is as consistent with the absence as with the existence of negligence, the case should not be left to the jury.

In *Fields v. Rutherford*, 1878, 29 *C.P.* 113, although there was professional evidence that a different course of treatment might preferably have been pursued, but the weight of evidence showed that the course of treatment pursued by the defendant was such as would have been adopted by medical men of competent skill and good standing in the profession; it was held that there was no evidence of negligence to be submitted to the jury, and a non-suit was entered. These cases were followed in *McQuay v. Eastwood*, 1886, 12 *O.R.* 402. The *ratio decidendi* of these cases was, that a medical man ought not to be placed in peril with a jury where their decision would involve the consideration of difficult questions in the region of scientific enquiry.

The next step in the practice was the suggestion by the courts that this class of cases ought more properly to be tried by a judge without a jury. This was the corollary or natural logical sequence of the cases

which I have cited, and was first made in *Kempfer v. Conerty*, 1901, 2 O.L.R., page 658 (note); and the same intimation was given in *McNulty v. Morris*, 1901, 2 O.L.R. 656. In both these cases it was stated in the judgment that this intimation was not intended to fetter the discretion of the trial judge in this regard. And so it comes about that this case is tried by me without a jury, the parties having practically consented to my so doing.

The injury which the plaintiff sustained, namely, dislocation of the astragalus, is one which is admittedly not of frequent occurrence; difficult to diagnose, especially when there is swelling of the parts; and one in which perfect restoration is not, at the plaintiff's time of life, to be expected. I was strongly pressed by counsel in the argument to find as a fact that David Archer and Dr. Windell did not make a correct diagnosis, or recognize the dislocation of the astragalus at all. Much stress was laid upon the somewhat different accounts given by these two, of the extent and position of the alleged fracture of the fibula. I think that the comments on this subject were somewhat hypercritical; and I fail to see their cogency in this regard. Technically speaking, the breaking or carrying away of portions of the periosteum constitutes a fracture; and I find, on the preponderance of the evidence, that such a fracture cannot be expected to be disclosed after the lapse of two years by the aid of the X-ray or sciagraph. The sciagraph is not a photograph; it is a shadow, and it is, in the present state of the science, not an infallible guide in fractures, to this extent, at least, that it will not always disclose the line of fracture; and the possibility is that the bony covering being reunited might not show at all. I, therefore, attach much less importance to what is now claimed to be shewn by the sciagraph than the plaintiff's counsel wishes me to do. On the whole case, and having regard to the burthen of proof, I find myself unable to determine this point in plaintiff's favour.

The next point in the case is, assuming the diagnosis to have been correct, whether the treatment adopted was in accordance with good surgery. Two medical men were called to say that it was not. Having already been examined as witnesses they were recalled at the very end of the plaintiff's case to criticize the treatment that was adopted. One of them was, apparently, a very respectable country practitioner of eighteen years' standing; the other was the gentleman who produced the sciagraph and gave evidence based thereon. These two witnesses found fault with the treatment in this respect that, in their opinion, the particular injury in question having been diagnosed, a bandage should have been applied with some form of angular splint before putting the leg in a box; and they said that the treatment actually adopted, namely

the wooden box splint with cotton batting packed about the limb, and a bandage outside the box, was not good surgery. I find that this position is not sustained by the preponderance of expert evidence. Dr. George A. Bingham says that what the defendant did was good surgery, and that the treatment suggested by the two witnesses of whom I have spoken would be practically "criminal." Mr. I. H. Cameron is equally pointed and incisive in his statement; he says that the box splint is quite good practice, and that the bandage next the skin and the rest of the treatment suggested by plaintiff's witnesses "would be the most undesirable that could be conceived." Dr. Herbert A. Bruce says that the splint box and bandaging adopted were perfectly suitable, and that the angular splint and the bandage next the skin would be very detrimental.

To what, then, if I find, as I am bound to do upon the preponderance of evidence, that the case was properly diagnosed, and that the proper treatment was adopted, is the present unfortunate result to be attributed? If it came down to a question between negligence or malpractice on the part of defendants, on the one hand; and the extreme improbability, even under favourable conditions, of perfect or even approximate restoration, I think the doctor in charge ought to have the benefit of the doubt.

But I am of the opinion that there is abundant evidence to show that the present unfortunate condition of the plaintiff is due to her own conduct

I may premise by saying that it is clearly proven that it is impossible to say now whether the present dislocation is initial or is a dislocation subsequent to the injury of the 17th May, and the setting or reduction thereof on the same day. It is further to be observed that Mr. Cameron says that the X-rays show that the astragalus is still in its mortise; *i.e.*, in place as regards the tibia and fibula, but that there is a rotation of the joint, and a displacement of the head of the astragalus outwards. I think I understood Dr. Bruce to say that this condition of affairs was evidence that there had been a reduction of the original dislocation. Be this as it may, Dr. Windell swears that having diagnosed and set and reduced the injury with David Archer on the 17th May, he visited the patient on the 19th May and found her condition satisfactory, and again on the 22nd. He paid a visit on the 3d June, alone, and found that the bandages had been disturbed, and he asked her about it and she admitted that she had had the bandages loosened and had a nice sleep. That he then found a partial dislocation of the astragalus and that he replaced it, put the limb back in the splint and repacked it; that he could not tell what was the extent of that dislocation, but that he does not think that there was any dislocation except at the head. He

attributes this partial dislocation to her having fallen asleep and turned over. The three medical experts called by the defence agree in saying that there was very grave danger in a box splint if the patient relaxed the bandages ; that it would be impossible to say that there was no disturbance, even if the patient lay perfectly still ; that there would be room for spasmodic action of the muscles which might occur involuntarily or during sleep, and which might be attended with grave results ; that it would not be possible, even with an effort, to keep the limb rigid for more than a minute or two ; and, moreover, that the result of this disturbance might not be discernible until after the patient began to use the foot, when a gradual inversion of the foot might be looked for as the patient commenced to walk.

I am asked to disbelieve the statement of Dr. Windell, upon the mere ground that while he is not a defendant in the case, his professional reputation is at stake. I find myself unable to do this, especially as his evidence is strongly corroborated. The plaintiff admits having gone to sleep once, while the bandage was loosened ; this, however, was after the leg was placed in the plaster of paris splint and cut open on the 12th June ; but Mrs. Asling, an apparently independent and creditable witness, says that she went in one time and the bandage was loose, and the plaintiff was working at the cotton batting, and witness asked plaintiff not to do it, and cited the case of a relative of her own whose tampering with bandages had been attended with disastrous results. Witness saw it loose on one other occasion afterwards. Both these times were while it was in the box splint ; it was unbound when the witness came in and she helped the plaintiff to do it up. She says Mrs. Gibson was there on that last occasion. Mrs. Asling also says that she saw the plaster of paris bandages taken off and the leg laid bare, and the plaintiff wanted the witness to get it done up in a hurry before Mrs. Baird, plaintiff's daughter, should come in. Mrs. Gibson corroborates this statement, saying that she was at the plaintiff's house with Mrs. Asling one evening that the bandage was loose, and it was bound up while she was there. As far as she can remember it was while in the box splint ; it was right out of the splint and that they replaced it in the splint and bound it up in the bandages.

If this evidence were much less clear and convincing than it is, in other words if the case were much more evenly balanced, I should feel obliged to give the defendants the benefit of the doubt ; but, as I have indicated before I am decidedly of opinion that the plaintiff has failed to make out a case of negligent malpractice, and that the action must be dismissed.

PRACTICAL POINTS IN LIFE INSURANCE EXAMINATIONS.*

BY S. M. HAY, M.D.

OF late years, Life Insurance has assumed vast proportions. During the last century it rose from a mere gamble in human lives to a science, which is claiming the talent and attention of some of our very brightest intellects.

All sound, progressive companies now *select* the lives offered them. This was not always so; and the great responsibility of this selection rests with the medical profession.

All Life Insurance calculations are based on the expectation of Life, that is the average after-lifetime of all persons at that age.

The laws of mortality are as fixed as the laws of gravitation. Babbage says, "Nothing is more uncertain than the duration of life, when the maxim is applied to the individual; but there are few things less subject to fluctuation than the duration of human life in a multitude of individuals." We cannot tell how long any given person shall live—whether a few days or many years. Expectation has no significance as to the individual life, but only to the lives in the aggregate. However, if we take one thousand, or better still, ten thousand persons of the same age, we can predict with almost mathematical precision the number who will die within a given period. This is the principle of annuities, endowments, limited payments, etc., in insurance.

Nearly all application forms now have an expectation table printed on them; but, if they have not, you can easily find the expectation of an applicant by deducting his age from eighty and taking two-thirds of the remainder. This will be approximately correct. It will be inaccurate when applied to very young, or very old lives. Between 25 and 75 it is fairly correct.

Now, if you remember that healthy men seek insurance with considerable deliberation, and that unhealthy ones rush after it when they think they have a chance of passing the examination, you can plainly see what a great responsibility rests with the local examiner. There should always be the closest harmony, and strictest confidence, between the local examiner and the referee of the company. An entire medical department, thus working harmoniously, ever on the alert to prevent bad lives creeping in, constitutes the greatest safety-valve the Company can possibly have. I am glad to belong to a profession of which a large majority are highly honorable men, and who could not be induced to betray a trust. Experience compels me to say, however, that some local

* Read at Toronto Medical Society, May 15.

examiners, though receiving their appointment from the medical department of the company, being responsible only to that department, receiving their remuneration from the same source, and having promised, in their application for appointment, to be uninfluenced by either agent, or applicant, and, in case of doubt, to give the company the benefit of the doubt, constitute themselves, apparently unconsciously, solicitors for the applicant; and are thus untrue to the interests of the company, employing and trusting them.

The above conclusion has been arrived at after careful observation and close investigation. Let me give you examples of carelessness, as I hope it was not the intention of the examiner to discriminate against the company, and in favor of the applicant. I have seen application after application come in from the same examiner with the pulse rate given, sitting and standing, respectively as 68—72, 68—72, 68—72; and respirations as 15—15—15. Becoming suspicious, I have asked the clerks to bring me a bundle of that examiner's work, and, on reviewing them, have found the pulse rate, in nearly all his examinations, the very same. Some will put the pulse rate higher sitting than standing, and the inspiration measurement less than that of expiration. This is generally a mere mistake—carelessness. Still, the application cannot be disposed of till that is made right, there is a delay for correspondence, and the risk of losing the business.

Occasionally an examiner will write a letter to the referee, which is always gladly received and confidentially regarded, but his letter may come in two or three days after the examination, and when the policy has been issued—unpardonable delay.

I have known an examiner give an agent a "Prospect," and arrange for a part of the commission from an agent. This is contemptible and very short lived for both examiner and agent when discovered. It is practically the same thing as the agent examining his own applicants. How many would he reject? I have also known an examiner, when interested in the commission, merely mention a heart murmur to emphasize its insignificance. Later I saw the applicant, and found he became short of breath on slight exertion, and, without exaggeration, the murmur could be distinctly heard through his ordinary clothing and an overcoat.

A prominent busy doctor in one of our western towns has been making examinations for life insurance by telephone, or on the street, or in a place of business, without removing any clothing. Suspicion arose. A referee interviewed some of those examined, or supposed to have been examined, and discovered the character of the work. The doctor acknowledged his guilt and was very much humiliated. The information

passed from one company to another, and it is scarcely necessary to say that his insurance business has not, since then, been very exacting on his time. Many examiners, considered honorable in their locality and profession, put no conscience into their life insurance work; and act as though their appointment and trust were nothing more than a mere idle form. I believe that the day is not far distant when the work of the local examiner will be carefully and regularly inspected, at least until he becomes thoroughly established in the confidence of the company. I shall now take up some of the important points in personal examination.

Inspection :—Did you ever pause to think how much we can learn from a look at an applicant, and how large a part of our examination is made by inspection? In this day of mechanical aids—the stethoscope, clinical thermometer, microscope, etc.—have we not fallen far behind our forefathers in observation and touch for example? Green says : “The skilled physician begins his examination at the very instant that his glance falls upon the applicant, and is carrying it on even while the formal phrases of an introduction are falling from the agent’s lips.” First impressions are often important, but should not bias the examiner. Note the gait and attitude of the applicant. Look for indications of drug and alcoholic habits, also for incipient mania, or paresis. Note general appearance and bodily conformation. Hippocrates tells us “that persons of a fine contexture, tender, and who have a small shrill voice, thin clear skin, a long neck, narrow breast, depressed or straight chest, and whose shoulder blades stick out, are of all others most subject to consumption;” and that “consumptive people are quick, full of spirit, hasty, and of sharp, ready wit.” That ancient description is fairly applicable to-day. Beauty and health are not as closely related as some would have us believe. Who has not observed the full soft melting eyes, beautiful sweeping lashes and exquisite coloring of those predisposed to tuberculosis.

By inspection the examiner must learn to read correctly the marks of bad habits, and of incipient disease, even before they are well marked. Compare carefully the apparent age with the age given. Does the applicant appear older, or younger, than the age given? This is very important. Baldness and early grayness are not significant when taken alone. Rapid aging is very important, and reduces by, perhaps, one half the usual expectation.

With regard to syphilis, observe the saddle nose, condition of the throat and teeth, skin lesions, muddy complexion, or hair gray in patches. These applicants frequently protest against a close inspection of skin and mouth. The more resistance offered, the more determination is required on the part of the examiner. Just now

I recall a case where a lady applicant declined having her chest examined. I insisted, and found that one breast had been removed for supposed cancer; and arrangements were already made for the removal of the other. Brights Disease cannot often be detected by inspection till far advanced. Then puffy eyelids, especially in the morning, giving way to a wrinkled condition in the evenings, is suggestive unless the party be advanced in years. The color of the skin varies from that of exaggerated health to a dough-white. The appearance of the alcoholic condition is so sadly familiar as to require no special comment. Heart disease may, or may not, be apparent on inspection according to the degree. Aortic regurgitation may leave its victim pale, thin and nervous; and you may also notice pulsating carotids and throbbing temporals. Drug habits may be very hard to detect. The victim here—as in alcoholism—is usually untruthful. You may observe frequent rubbing of the nose, and contracted pupils, if morphine has been recently taken. When suspicious, always look for hypodermic marks.

Cocain closely resembles morphia in its action, but the circulation is more likely to be weak and the pupils dilated.

The merry, happy, bright, laughing eye of the innocent child, in contrast with the shifting, evasive glance of the hardened criminal, is familiar to all. But the eye is more than the window of the soul. In it we find the indication of many diseases. Note the condition of pupils, the ocular conjunction, the presence of old opacities, an exophthalmos, evidence of paralysis, or brain tumor, meningitis, or hemorrhage. It will be seen from the foregoing that inspection is a very important part of the examination for Life insurance, as it is in disease.

Let us now review some of the questions usually asked in an examination form. Occupation is frequently answered in a very indefinite and unsatisfactory manner for example, "Traveler" may mean for dry goods or liquors, "Clerk" may mean in a bank, or a saloon and pool room. A man might be a "Foreman" in a furniture or a dynamite factory. "Electrification" might signify employment at the office desk, or climbing poles.

Married men are generally considered better risks than single men, and some go so far as to say that bachelors never attain a very advanced age. Length of life is not increased, however, by marriage late in life, especially if the mate selected be quite young. Is the residence healthful or otherwise? Is the home in a malarial district, or at the mouth of some open sewer? An important question now on some application forms is, "Has any member of your family, or household, died of tuberculosis

within one year?" A death in a home sometimes induces other members to insure. It is important to know the cause of such death; and, if from tuberculosis, to ascertain whether efficient means of disinfection have been employed. "Does the applicant assert that he is now in good health and of sound constitution?" The applicant may manage to evade many of the questions; but this is so pointed that it puts him on his honor, and generally brings a truthful answer. As to "appendicitis," if an applicant has had "stoppage of bowels," "bowel trouble," "inflammation of bowels," "constipation," "colic," "peritonitis," or "acute indigestion," be on the look out for this disease. "Peritonitis" generally means disease of the female pelvic organs, or appendicitis. The examiner should always get a detailed account of these attacks. If an operation was performed, what was accomplished? Was the appendix removed; or an abscess merely opened and drained? Examine the wound for probable hernia. Cases of acute, non-suppurative appendicitis, without operation, are insurable after two years of complete immunity. If the appendix has been successfully removed, one year of immunity is sufficient. If an appendicular abscess has been opened and drainage employed, three to five years should elapse before the person is safely insurable. In chronic relapsing cases, a period of from three to five years should be allowed, dating from last symptom of last attack. Asthmatics should be looked on with suspicion, and examined with care. Many consumptives consider their trouble asthma.

Chest Measurement.—Note the amount of expansion. Do the sub-clavian regions expand freely and fully? The chest expansion should be one-tenth of the maximum chest measurement. The chest capacity, in inches, should be one-half the height of the applicant, for example, a man five feet ten inches in height should have a chest measurement of at least 35 inches. Athletes and many consumptives have good expansion—the former from training, and the latter from teaching. Athletes are usually not first-class risks; and the consumptive, of course, not insurable. The waist measurement, in well proportioned men, is slightly less than that of the chest.

Colic.—This indefinite term always requires explanation. It may mean gallstones, floating kidney, colitis, abdominal aneurism, neuralgia, indigestion, hernia, lead colic, renal colic, appendicitis, ulcer of stomach, etc.

Liquor Habit.—All insurance companies regard intemperance with disfavor. "Do you use spirits, wines, or malt liquors, etc.?" It is frequently more difficult to get a truthful answer to this than to any other question in the form. When questioned regarding the quantity a com-

mon answer is, "a glass occasionally," and the referee is left to guess whether it means a glass occasionally each hour, or occasionally each month, "A glass when I meet a friend," or "A drink when I feel like it," may mean forty times a day. These answers, and others like them, are altogether too indefinite to be of any service in deciding a case. The examiner should in every case give the daily, weekly, or monthly average number of drinks, or average quantity consumed.

"*Keely Graduates*."—These are mostly rejected, although some companies accept them after five years of total abstinence have elapsed.

Fearing I have already exceeded the time allotted for this paper, I hasten to conclude, fully recognizing the fact that many points, for example, rheumatism, kidney disease, etc., of equal importance to those taken up have been necessarily omitted.

A CASE OF ACUTE NEPHRITIS.

JOHN HUNTER, M.B.,

Physician to Toronto Western Hospital.

THE patient, A. W., was a female, single, aged 35, with good family history, she had had scarlatina, with some renal complication, in childhood. The recovery was complete, and her health ever since has been excellent. About Feb. 5th she began to complain of slight chills, fever, headache and nausea, but was not aware of any kidney troubles. She took bromo-quinine, and continued about the same until 9th, with the exception that her clothes and shoes seemed to be a somewhat tighter fit, she began to menstruate on 9th, and, on 10th, helped to wash and hang out clothes. The ground was covered with soft snow. Her feet and skirts became wet and cold. That evening, she complained of more severe chills, fever, and a greater tendency to vomit. She had to urinate rather frequently, though the quantity of urine was small. I saw her about 10 p. m., when her temperature was 100, with the symptoms above noted. There were no cardiac or pulmonary symptoms. She said that she had been taking some medicine for la grippe and that she had caught more cold, putting out the clothes, but would be all right in the morning. I prescribed a saline purgative with drinks of hot lemonade, I was hurriedly sent for on the morning of 12th, as the patient had become greatly alarmed at her condition. There was considerable dyspnoea, and she had to be propped up with pillows. The eyes were almost closed on account of the œdema of the face

The abdomen presented the appearance of a seventh or eighth month's pregnancy. The hands, feet, and limbs were about double their natural size. The temperature was 101, and the pulse was rapid and tense. The œdema of the chest walls made it very difficult to ascertain, with any degree of accuracy, the pulmonary or cardiac conditions; but there was evidently pleuritic effusion of considerable amount. A small quantity of high colored, acid urine was obtained, which, on being boiled, coagulated into an almost solid mass. I prescribed saline cathartics, sufficient to keep up free purgation, and a solution of potass. bitart. to drink, also heat by means of hot water bottles to promote abundant perspiration. These measures reduced the general œdema some, but the dyspnœa, increased. On 13th, I inserted a hypodermic needle, between the 6th and 7th ribs, in the mid-axillary line, on the right side. The syringe was immediately filled with serum. I introduced the needle of the aspirator at the same puncture, and slowly drew off between two and three quarts of a clear, amber colored serous fluid. This relieved her breathing and she was able to lie down. On 14th the kidneys began to act more freely, the œdema slowly passed away, the patient making an uninterrupted recovery. The last examination of the urine was as follows:—Sp. gr. 1020, clear, and no albumin, sugar, or casts. The pulmonary and cardiac conditions were normal, but the patient was still very anæmic.

A case like this presents several interesting factors, e. g., etiology, pathology, albuminuria, anasarca, prognosis and treatment. The purport of this paper is to briefly outline these, leaving the fuller discussion to the bers of this association.

ETIOLOGY. Acute Nephritis, unassociated with any other morbid condition is a rather rare disease.

The chief exciting causes are cold and dampness, irritants passing from either the vascular or lymph channels, obstruction, or traumatism. The predisposing ones are extremely varied and numerous. The functions of the kidneys make them vulnerable to bacteria, toxins, or, in brief, to the noxious products of disease, in every fluid, tissue, or organ of the body. The toxins of some of the acute infectious diseases, such as scarlatina and diphtheria, seem to exert a peculiarly irritating effect upon some of the renal tissues. The fact that albuminuria is a very frequent complication in diphtheria, seems to be rather overlooked, for some time ago, on giving a rather unfavorable prognosis in a case of this kind, an older physician with a larger experience, who saw this case, expressed surprise, and said he thought it must be a rare occurrence.

The **PATHOLOGY** of acute nephritis has to do more particularly with the morbid effects produced on the epithelial lining of the malpighian

tufts, and the tubules. Exfoliation of epithelium and changes in the vascular walls permit of direct transudation of the albuminous fluid, from the vascular and lymph channels, into the tubules. The other factors are increased blood pressure and chemical changes in the blood, due to bacteria, toxins, etc.

The chief morbid element in albuminuria is serum albumin. If urine, containing this substance, be boiled in a test tube, and a few drops of dilute acetic or nitric acid be added, a cloudiness, numerous flakes, or a more or less dense coagulum is formed, according to the quantity of serum albumin present. The serum albumin present in albuminuria is derived from the blood and lymph. A small quantity may be present, as the product of suppurative processes, anywhere in the urinary tract. Several theories have been advanced to account for the presence of albumin in the urine. 1st hæmatogenous changes, which are supposed to render the albumin more readily diffusible; 2nd vascular changes, on account of which the vascular walls become more permeable; 3rd, Pressure changes, where cardiac, or vaso-motor influences increase or diminish the blood pressure.

The cedema, anasarca, or dropsy, is caused by a serous fluid, which has the following composition: 950-990 parts of water in a thousand, the remainder consisting of albumin and salts. The fluid occupies the lymph spaces of the subcutaneous, cellular tissue. It may also be found in the serous cavities, cerebral, pulmonary, cardiac, and peritoneal. In health, serum is constantly passing into the lymph spaces from the capillaries; and, as quickly, removed by the venous and lymphatic radicles. Cedema is the result of either an excessive flow of serum into the lymph spaces, or of impairment of the functions of the venous and lymph radicles. The equilibrium may be disturbed by vascular, or vaso-motor changes, the former influencing the chemical constitution of the blood, the latter the blood pressure.

PROGNOSIS. Clinical evidence and pathological research have greatly modified the grave views held by the illustrious Bright, and by physicians generally, until quite recently, in regard to the presence of albuminuria. This term, and Bright's disease, long stood for certain severe morbid lesions of the kidney. It is a well established fact now that albumin may be present in the urine without at least the gross renal lesions incident to Bright's disease. Albumen, in greater or less quantity, may be present in the urine, constantly or at intervals, in association with cardiac or vaso-motor disturbances, rheumatism, gout, lithæmia, pregnancy, or during the ingestion of certain drugs. It is frequently present during the period of adolescence. Acute nephritis, apart from

any serious complication, usually terminates favorably in a few days.

TREATMENT. If we accept, and I think we can, the views now held regarding the presence of albuminuria, we at once recognize the importance of having a very general and thorough examination made, not only of the kidneys and renal secretion, but of every other condition, function and organ of the body, of patients presenting themselves with renal trouble. In acute nephritis, as in every other form of renal disease, we must bear in mind the special function of the kidney, viz., the elimination of effete and noxious products from the system. In the form of disease under discussion, this function is seriously impaired. The great object of treatment is to relieve the disabled kidneys of a large portion of their work, by securing the elimination of waste products by other channels. The skin should be kept very active by means of vapor baths of 15 or 20 minutes duration. Such a bath can be quickly extemporized by means of a wooden seated chair, a spirit lamp, and a blanket. Hot water bags, or bottles, packed round the patient are very serviceable. Saline cathartics, such as Epsom, or Rochelle salts, bitartrate of potash, etc., are generally more useful than the drastic purgatives. Small quantities of milk is the best diet. Where the amount of œdema, or effusion into the serous cavities is excessive, only a limited amount of water should be allowed as a drink. There is no drug, so far, at least, as I have had any experience, that can be safely given to lessen the amount of albumin. Such drugs as digitalis, strophanthus, caffeine, sparteine, and iron, should be withheld, or, at least, very carefully watched, as they are known to increase the amount of albumin in acute nephritis. I am satisfied the coal tar preparations should be placed in the above list. When the function of the kidneys has been re-established, the dietary may include farinaceous articles, fruit, and vegetables, and, later, the nitrogenous food. Particular directions must be given regarding the clothing. Woollens should be worn to preserve a more uniform temperature. In addition to abundance of fresh air and sunshine, ferruginous tonics may be useful in restoring the blood. Surgical means for removal of fluid from the cavities may be required.

ACUTE INSANITY FROM DENTAL IRRITATION AND TOXEMIA.

By ERNEST HALL, M.D., Victoria, B.C.

INSANITY is present in a given case when the normal harmony of the cortical intercellular metabolism is disturbed by abnormally intensified irritations, the result of the contact of nerve terminals with diseased conditions, or, metaphorically, insanity exists when the dominating and

controlling ego is subjugated and controlled by the intensity of the irritation from diseased structures. As physical disease manifests variations of intensity, often beyond our ability to explain, so will variability be characteristic of the psychic disturbance. In this connection, we may call insanity the psychic product of physical abnormality, which product is yet unknown to us, except in name and crude classification. We can approximately determine the character of the psychic phenomena, caused by some of the vegetable poisons; but we have not been as successful in similar efforts to classify the psychic expressions of the animal ptomaines. Here is a field for the expert in pathological psychology—the determination of the pathological index of abnormal cortical metabolism, in other words to evolve the psychology of the various diseases. The following case exhibits some of the psychic phenomena referred to:

Mrs. X., aged 23, married four months, excellent heredity, menstruation scanty but regular, presented a swelling over the ascending ramus of the inferior maxilla, from which an abscess had discharged into the mouth a few days previously. The teeth were badly decayed, the mouth offensively foul, temperature 103, considerable emaciation, and general sepsis. The accompanying mental symptoms were interesting, inasmuch as there was constant acute delirium. Sedatives and forced feeding were advised; and the opinion given that the cause of the trouble lay in the diseased condition of the teeth. I returned the following day along with a dentist. The condition of the patient was unchanged, the delirium having been continuous. Chloroform was administered, and the decayed molars removed. The pelvis was also examined with negative results. Upon recovering from the anæsthetic, the patient was rational, for the first time in weeks. After six hours, the delirium returned, but disappeared under forced sleep, reappearing for a few hours on each of four successive days. In fact, the mind became normal with the healing of the gums. The medical treatment consisted in stimulants, tonics, ample food, and anti-streptococcic serum. The history of the case, previous to my visit, is better given in the words of one of the attendants as follows: "Mrs. X. caught cold on the 2nd, causing an abscess of the face. On the 14th, she awoke in the night, and asked her husband not to leave her, and to protect her. On the same day, she used these words, 'I am so happy the end of the world has come,' and ran out on the street shouting. A physician was consulted, who ordered her to bed, 'saying there was an abscess of the face.' During the following week, she spent the nights singing and clapping her hands, and was very restless. On the 23rd she ran to her sister's residence, over half a mile away, shouting and saying, 'someone was trying to hypnotize her and kill her sister.' The next day

she was worse and wished her husband to kill her. She would continually get out of bed, saying 'there was someone under the bed.' On the night of the 24th, she fought with everyone, tearing her hair and pulling herself to pieces generally. Two physicians then advised removal to the asylum as soon as possible, there being no other hopes for her, and made out the necessary papers for her commitment." The report of Dr. Clements, who removed the teeth, is as follows: "A number of teeth were decayed below the gum margin, with inflammation of the gums and destruction of the vitality of the pulp and nerve. In the case of the third lower molar, the inflammation had passed down through the canal at the apex, infecting the alveolar process and other contiguous tissues, causing an abscess at its root. The wide distribution of the impulse, in irritation of the inferior dental nerve, is shown by its connections with the other branches of the fifth nerve and with the sympathetic, through the submaxillary and gasserian ganglia."

Three years ago, with an experience of twenty-three cases of mental disease, I wrote the following: "Wherever from external causes outside the body, or from local physical causes, the nerve fibre is affected, sensation occurs, and there the Self is, for the time being, conscious of experience. But if the local sensation be exceedingly painful and long continued, as in a severe toothache, the harmony of the Self may be disturbed until the tooth is removed. The loss of the organ and the impairment of the function of mastication is incomparable to the benefit given to the organism and the harmony of the Self obtained by the relief from pain. With the knowledge of slight psychic disturbance, caused by brief irritations of a sensory nerve, we can easily conceive that a continuous irritation of a sympathetic nerve, though devoid of sensitive fibres, could not but act prejudicially upon the local functions and produce correspondingly disastrous results upon the Ego, without even the manifestation of a painful sensation."

To-day, with a list of ninety-five cases of mental abnormality, it is satisfactory to find not only a practical confirmation of my main contentions, but also, as in the case above reported, a verification of the theory illustrated by the hypothetical toothache.

The rarity of dental irritation, as a primary cause of insanity, is shown by the fact that I have been able to find only two other cases in my limited literature at hand. These are given by T. Lauder Brunton, who, speaking of dental irritation causing disorders of motion and sensation, goes on to say: "even the cerebral faculties themselves may also suffer from a similar cause. One or two very interesting cases of this sort are recorded by Dr. Savage in the *Practitioner* for June, 1876. The

first of these was that of a farmer, aged twenty-two, with a strong tendency to insanity. In May, 1875, he suddenly took to riding madly about the country without his coat and waistcoat. From May until November he was exceedingly noisy, destructive, untidy, almost constantly excited, and, if for a day or two he was exhausted, he was sullen and more dangerous. In the middle of November he complained of a very severe toothache that caused him to be sleepless. He bore this for two or three days, after which the stump was removed. There was suppuration at the root of the fang. From the time that the stump was extracted the patient steadily improved, and by the middle of December was quite well. Another case was that of a woman, aged thirty-four, who had a brother insane, and had herself been intemperate. She was admitted in September, 1875, suffering from acute mania. She was noisy, violent, and obscene. She continued to be so until January 20th, 1876, when she complained of great pain, with swelling and redness of her right lower maxilla. She had some bad teeth, but did not complain of toothache. The pain and swelling increased, and, at the same time, she became quiet and reasonable. She said she could not remember much of her state of excitement. The swelling of her face subsided, and she remained quite well. This case, however, was not so convincing as the first one recorded, because here there was a second cause of recovery, as she was pregnant, and said she felt quickening about ten days before her recovery. The recovery, however, was coincident with the pain and swelling of the face, and seemed, rather than the quickening, to be the cause of recovery." It is hardly necessary to comment upon the haste which too frequently characterizes asylum commitments, as this case speaks for itself. This matter will be dealt with in a future contribution.

THE SURGICAL TREATMENT OF EMPYEMA.*

BY J. L. TURNBULL, M.D., Clinton, Ont.

I DO not propose to-day to give you any lengthy dissertation on the subject "The Surgical Aspects of Empyema," as empyema is being also taken up on the medical side, and I presume all that pertains to the history, the etiology, the pathology and the treatment of the disease will be dealt with there. I will therefore take the case only from the time it falls into the hands of the surgeon. I might be allowed to state, however, that this disease, or collection of pus, often comes on insidiously, especially in children. A child may have typhoid fever, measles, whooping cough, scarlet fever or any of the diseases common in childhood; the illness,

* Read before the Huron Medical Association.

perhaps, runs an ordinary course, but afterwards the child does not do well, it begins to lose flesh, looks pale, there is poor appetite, languor, some fever, sweats, and it is altogether miserable. These cases should be examined very closely for a collection of pus; and, by a careful examination of the chest, you may run across an empyema. The diagnosis of empyema belongs perhaps to medicine, but in any suspected case it does no harm, if strict antiseptic precautions are taken, to put in an aspirating needle and remove some of the fluid. When the presence of pus is determined, it should be evacuated at once, as there is always the danger of the abscess bursting into the chest, or through the chest wall, or even through the diaphragm, causing peritonitis. I saw one case where it had been left so long that there was quite extensive necrosis of two ribs, and the pus was pointing on the chest wall. That, I think showed gross carelessness, as it ought never to have been allowed to reach that stage. Now, whenever the diagnosis is clearly established, we must get rid of the pus, and this may be done by aspiration, by simple incision between the ribs, or by incision and the removal of a portion of bone; and, in nine cases out of ten, the last is the correct method.

Aspiration is performed in the way that is too well known to require any description. The only point to remember is not to remove the fluid too rapidly, in order to obviate the danger of pulmonary irritation or hemorrhage from the rupture of a vessel.

Aspiration in these cases very often fails, because the pus usually collects again; or, being often curdy, it will not pass through the needle. The second way is by incision. Now, in opening an ordinary abscess, one usually tries to get at the lowest, or most dependent part, to secure free drainage. This obviously would not do in an empyema, because it would call for the opening as far back and as low down as possible, which is not the best place. If too low down behind, the chest falls in and the viscera rise up, stopping the hole. The opening must be at least two or three inches above the lowest point of the pleural cavity. There is danger of wounding, or puncturing, the diaphragm if the incision is too low down. It is not necessary to have it so low, as we can get perfect drainage higher up. I saw one case where the surgeon, in trying to get as near as possible to the lower part of the cavity, cut into the diaphragm, opening both into the chest and the abdominal cavities. Peritonitis ensued and the child died, whereas its life would surely have been saved had the opening been higher up. The points usually chosen are the space between the fifth and sixth ribs, an inch and a half in front of the mid-axillary line, or the eighth or ninth intercostal space, just anterior to angle of the capula. The operation is a simple one. The parts are made perfectly

aseptic, the patient is put under an anæsthetic, an incision is made through the skin and muscles, and then through the pleura, or a director may be thrust through the pleura, dressing forceps being passed along the director and widely opened.

The preferable method and the one which I always adopt, after the diagnosis of pus is made, is to remove a portion of a rib. In this operation an incision is made directly down on the rib. A horizontal and two transverse incisions are made through the periosteum, which is raised with a rugine and a piece, say an inch and a half, of the rib is cut out, either with the saw, the preferable plan, or with the bone forceps. Strict antiseptic precautions must be taken in this operation. After removal of the rib, the portion of periosteum should be cut out, then a drainage tube, or double tube, inserted, with side opening only in the outflow tube. The cavity is washed out with sterile water. Washing out should be done every day, if the pus is offensive, and the tubes gradually shortened, until they can be removed altogether. There are a few cases where a cavity and sinus remain after the above operation, the lung not expanding sufficiently to meet the infalling ribs. The sinus may become closed, and there is the formation of a second empyema. In these cases we should at once do either Estländer's operation, or a modification of it. One of the best methods is to carefully locate the size and boundaries of the cavity with a probe, then to dissect up a flap of skin over the whole extent of the cavity, removing portions of third, fourth, fifth and sixth ribs—the length of the pieces removed and their number depending on the size of the cavity. The only thing is, be sure to remove enough. There is in these cases always a quantity of hard, fibrous tissue beneath the ribs, and partly filling the space. This must all be very thoroughly removed, the whole cavity mopped out with pure carbolic acid, then with alcohol, to prevent carbolic acid poisoning, and finally with pure sterilized water. The cavity is carefully dried. The skin flap is fitted over the surface of the pleura and stretched around the edge, and a drainage tube put in the most dependent part.

HYSTERESTOMY FOR UTERINE FIBROIDS.

By N. E. MacKAY, M.D., M.R.C.S., Eng.

Senior Surgeon Victoria General Hospital, Halifax; Professor of Surgery, Halifax Medical College.

R F. C., single, age 30, was admitted to the V.G. Hospital on June the 25th, 1901, suffering from uterine Myomata (fibroids).

History.—Born in Lunenburg Co. She had all the ordinary diseases of childhood, worked on the farm in summer and made shoes in winter, and

had always been healthy with exception of present illness. She began to menstruate at 17, and was always regular. Had no pain with her sickness till 2 years ago.

The present trouble began 4 years ago, when she noticed a lump the size of a hens egg, which was quite moveable, on the left side of the abdomen. Also she began to have bearing down feelings, like weight in front of the abdomen; menstruation kept regular and without much pain for 2 years. The tumor kept slowly increasing in size till four months ago when it took on a more rapid growth. At the end of two years her menstrual periods became painful but not irregular.

Patient's general health is good. Respiratory and circulatory systems normal. Urine normal. She has some frequency of micturition.

Examination of the Abdomen.—There is a solid tumor about the size of the patient's head in the mid line in the lower part of the abdomen, more moveable to the left than to the right. It is quite free and not nodular. It extends a little more to the right than to the left of the middle line. The colon can be traced above but not over it. The flanks are tympanitic. There is no glandular enlargement. Menstruation is regular every four weeks, lasts for 6 days and is very painful for 4 days before, and 2 days after menstruation is established; always has an inter-menstrual discharge of a creamy character.

Exam. in G. O. Room.—Cervix very thin and drawn up beyond reach of the finger and pushed to the right by a tumour to the left of the vaginal wall. Two tumours are present. The upper, the larger, is slightly moveable over the lower which is fixed and extends downwards $\frac{2}{3}$ the length of the vagina. It is about the size of a cocoa-nut. The former is in the body of the uterus and the latter apparently in the cervix. The sound passes into the uterus 3 inches and its point is easily felt through the abdominal wall, right side.

July 4th. Operation: Hysterectomy. Patient prepared as usual. Vagina douched with bichloride 1-1,000, and iodoform tampon inserted. The abdomen sterilized in usual manner. Ether the anæsthetic used. An incision 5 or 6 inches long was made in the median line and the abdomen opened. The tumour which was pinkish in colour presented itself. The upper and larger part of the growth was above the pelvic brim, the lower and smaller within the pelvis. The tumour was now pressed out through the abdominal incision and the ovarian arteries and round ligaments were secured by double ligatures and divided. The broad ligaments were separated and the right uterine artery tied. The peritoneum on the anterior and posterior surfaces of the uterus was gently peeled off on a level with the internal os. The larger growth

which embraced the uterus was now lifted up and the lower one which involved the cervix, was carefully dissected from its position in the pelvic cavity. This done the cervix was divided on a level with the internal os and the tumour removed. The left uterine artery was now secured. Patient lost very little blood, not more than an ounce or two. The cervical canal was then swabbed with pure carbolic acid and alcohol, and a narrow strip of gauze inserted for drainage. All bleeding points being well secured and the abdominal cavity freed of blood, the pelvic peritoneum was stiched over the cervical stump. The abdominal incision was closed with 3 rows of sutures. The ligatures used were sterilized silk except in closing the skin incision. Here silk worm gut was used. Dressed the wound aseptically and sent patient to ward 65 in very good condition. Time, one hour.

After progress, uneventful. No vomitting after anæsthetic. Highest temp. 100°, quickest pulse 96. This was at 6 p.m., day of operation. After this temperature did not go over 99, nor pulse over 78. Was fed exclusively per rectum for the first 24 hours. For the next two days she was given slop diet. Bowels moved on 2nd day with calomel and enema. After the third day she was allowed to return gradually to solid food. Changed dressing.

Spread of Typhoid Fever.

Dr. W. H. Corfield, in his Milroy Lectures on typhoid fever, adduces evidence to show that the disease may be spread by foods and drinks, as oysters, mussels, cockles, fish, ice-cream, milk, water, ginger beer made from polluted water, raw vegetables washed with polluted water or from homes with typhoid. Then sewer air may be a direct cause of the infection. Outbreaks of the disease have been traced to conditions where the sewer air makes its way into the houses. Other sources for the infection had been carefully sought for and never found, except the sewer air entering the dwellings. With regard to personal infection, strong evidence is collected to show that typhoid fever may be communicated from the patient to those in close contact with him. This view is contrary to much of the present-day teaching, but the lecturer advances cogent reasons for its acceptance. Another source of infection, revealed by the study of the disease in South Africa, is the fly. During the cold months, when flies do not abound, the disease abates, and spreads again in the hot months. The cold in itself does not affect the bacillus.

CURRENT MEDICAL LITERATURE.

Conducted by A. J. MacKENZIE, B.A., M.B.

TINNITUS AURIUM.

IN the March Laryngoscope, Harris in discussing the therapeutic treatment of Tinnitus Aurium, places the drugs in the following order of merit, Strychnine, Iodide of Potash, Nitro-glycerine, Tinc. Gelsemium, Bromide of Potash, Tinc. Digitalis. Strychnine was given in one-sixtieth grain doses before meals. Relief more or less temporary was obtained in 41 per cent of the cases. Nitro-glycerine was prescribed in doses as high as 20 minims per day, in cases marked by a high tension of the arterioles. Aconite, Atropine, and Arsenic gave negative results, and Bromide of Potash, and Hydrobromic Acid were without a single exception disappointing.

DR S. LEDUC, of Nantes, has introduced a specially constructed glass tube for the inhalation of powders into the larynx, which consists of a glass tube of about six inches in length, bent at one end into a crook of about half an inch, while $2\frac{1}{2}$ inches of the other extremity are bent downwards at an obtruse angle. The short crook, lying downwards, is pushed by the patient to the back wall of the pharynx, and the opposite extremity is allowed to dip into a small quantity of light powder in a watch-glass or plate; the patient then closes his lips and draws in his breath rapidly through the tube so as to inspire some of the powder. This, following the inspiratory blast, finds its way, according to the inventor of the method, into the larynx. It is a method of great simplicity, and has the advantage that it can be carried out by the patient himself under the direction of his medical adviser.

ACQUIRED DEAF MUTISM.—DUE TO IMPACTED CERUMEN.

AN interesting case of this was presented before the British Laryngological Association in January. The child, female, aged nine, had a virulent attack of measles at the age of three without any ear symptom. This was followed by signs of deafness, and with the increasing deafness power of uttering intelligible sounds had diminished, until the vocabulary was limited to a few sounds such as "Mammy," "More," "Pese." Unless the child was previously looking at the ques-

tioner it was necessary to touch her before interest could be aroused. The board school had refused her admission. The family history and the appearance of the child afforded no clue. On being spoken to in a loud voice she answered no questions, and did not utter a sound. Noises made behind her had no effect. The appearance of the ear and throat was normal, but the auditory canal was rather long, and unusual in its curve, making it difficult to obtain a view of the membrane tympani. In each ear in contact with the membrane there was found a hard, inspissated mass of cerumen of old standing, which was removed with difficulty, and the membrane itself proved to be retracted, somewhat opaque, but otherwise healthy. The improvement in hearing and speech which gradually followed was quite marked, and the prognosis was excellent.

LINGUAL VARIX.

MR. LENNOX BROWNE presented this subject, and showed five cases before the British Laryngological Association in January. Most of these complained of some cough of an irritating character, with occasional traces of blood, or with a taste of blood in the mouth on waking. In four cases either rectal hæmorrhoids or obstinate constipation were present, and in the fifth the patient had varicose veins of the foot and ankle. Most of the patients suffering from the disease are somewhat neurotic, especially those of the female sex, but only a small proportion will get well of themselves; and, if treatment be neglected and their sufferings ignored, there is apt to be generated a certain amount of melancholia and hypochondria, with a development to reflexes of apparently impossible relationship. In this connection Mr. Mayo Collier referred to a case of severe dyspnoea, with emaciation and loss of strength, where the cauterization of a varicose and enlarged condition of the veins at the root of the tongue and a marked fullness of the lingual tonsil had afforded complete relief. The patient had become a source of great anxiety to her friends, and had consulted many physicians in vain. Lingual Varix is often overlooked and its importance unduly minimized, but it may be a source of great discomfort, and may tend to grave pathological conditions in the upper air passages.

INTESTINAL OBSTRUCTION TREATED WITH QUICKSILVER.

The *British Medical Journal* for April 26th, has a report of two cases of intestinal obstruction treated successfully by J. M. Harrison, by means of quicksilver. The first case was in a man 60 years of age, in

whom the symptoms followed a fall and increased in spite of all medical assistance for a week, the friends refusing surgical interference, until as a final resort Dr. Harrison administered $\frac{1}{2}$ -lb. of quicksilver, accompanied by opium. The following morning the patient felt better, was able to take and retain some nourishment, the distension disappeared and the bowels which had been quite obstinate were moved. The mercury came away ten days after administration. The second case was in a man over 80 years of age, in which the diagnosis was made on the symptoms pain, fever, distension, vomiting, obstinate constipation. There was no possibility of an operation, and so on the fourth day $\frac{1}{2}$ -lb. of quicksilver was given, the bowels moved about twelve hours after, the distension was reduced and he was able to take nourishment. Twelve days after the mercury was passed, and he made an uninterrupted recovery.

In neither case was there the slightest symptom of mercurialism, nor increase of abdominal pain. The writer had no hesitation with regard to his diagnosis, and is strongly of the opinion that in cases such as described that the treatment is worthy of trial.

DEFLECTION OF THE SEPTUM.

IN the March Laryngoscope, Chevalier Jackson, in discussing the causes of the frequent failure of corrective operations, advances a somewhat remarkable theory, and an equally remarkable line of treatment. According to this theory, the inferior turbinated body on the concave side of the deflection swells up during sleep, and pushes the straightened septum over to the opposite side, thus restoring the statu quo. The offending turbinal is one which during the day time, or when under observation is apparently of small size and incapable of any such surreptitious design upon the good work effected by the surgeon. Dr. Jackson traces however, upon the septum a species of facet formed by the intermittent pressure of this turbinal and has surprised if often in flagrante delicto, his experience being that such a turbinal having had its own way so long owing to the curvature of the septum is capable of developing great strength and size and pressure power. Were it not for this action the septum being once replaced it would become quite unnecessary to support it by means of a splint, or even of packing to hold it in its new position. The remedy proposed by Dr. Jackson is to say the least radical, for to use his own words, "we must prevent the failure of our corrective operations by preceding every operation for deviation by a turbinectomy or a very radical turbinotomy of the inferior turbinal on the concave side."

The experience of those who are constantly performing one or other

of the many operations for deflected septum will hardly bear out Dr. Jackson's sweeping assertions, or be favourable to so drastic a treatment. Certainly care should be taken to keep the concave side quite patent and any obstruction must be freely removed, but when we have said this we have said all. Surely it is wiser to await the after results of operation and to take the measures then required, rather than to offer so large a discount in advance, as is involved by a turbinectomy. The term failure would seemingly require definition. An absolutely straight septum is perhaps seldom obtained, but is nevertheless seldom required, so long as all obstruction to perfect nasal breathing, and the performance of the nasal functions is removed.

The above sweeping statement of Dr. Jackson would seem to be of the mischievous variety.

SADDLE NOSE.—TREATED BY SUBCUTANEOUS INJECTION OF VASELINE.

THIS ingenious treatment of a disfiguring condition which causes so much annoyance and is so difficult of remedy, was first prescribed by Gersuny, of Vienna, and cases illustrating its usefulness were recently presented before the Laryngological Society of London by Dr. Bronner and by Dr. Scanes Spicer, whose portrait, by the by, has been so strikingly reproduced by Vanity Fair among its cartoons of prominent men. The patient of Dr. Spicer had a well-marked, tip-tilted saddle nose, and stunting of the nasal framework, with crescentic wrinkles from eye to eye over the bridge of the nose. The paraffin used was a mixture of hard and soft paraffin made to meet at 40° C., previously sterilized. The syringe and needle were boiled in the sterilizer, which at the same time acted as a water-bath to heat the paraffin. The syringe, an ordinary hypodermic, was removed from the socket in the needle for refilling, which once in situ was allowed to remain there until it was judged that enough vaseline had been injected at that spot. Some ten or twelve syringe-fuls were injected in various directions into the depressed gap, and the injected matter moulded by the fingers, so that the part became shaped before setting occurred. There was no pain or reaction at the time, but after a few days some oedema of the upper eyelids appeared in the one case, and some inflammation of the nose in the other, in neither case, however, attended by any evil results. In Dr. Spicer's case, the patient's mother was "proud of her in her altered condition," and the skin over the bony bridge of the nose being bolstered up, presented a very respectable organ. In Dr. Bronner's case, the nose was very much

harder than in the one above referred to, but equally satisfactory. Care evidently requires to be exercised to prevent the paraffin forcing its way into adjacent tissues, as the eyelid, and for this purpose it has been recommended to exercise firm pressure upon the root of the nose, by means of a piece of lead sheeting applied to it and the parts adjacent. This pressure being kept up for some time afterwards, as the action of the muscles, such as the pyramidalis nasi, requires to be controlled. No anaesthetic is needed, but cocaine may be injected if the patient is nervous. The obstacle most difficult to overcome in this connection is the rapidity with which "setting" occurs, the small amount of paraffin required conducing to this. If by some means this can be prevented until the nose be moulded into the exact shape desired, this new "plastic" operation has almost unlimited possibilities before it, and the ancestral nose can be brought forth with as great ease as the genealogical tree with which it must go.

THE ETHIOLOGY OF CANCER.

THE April number of the Journal of Medical Research contains the Second Annual Report of the Cancer Committee to the Surgical Department of the Harvard Medical School, under six headings, as follows.

I. *Coccidium* infection of the Rabbit's Liver, by E. E. Tyzzer; the results of this investigation briefly is as follows:

1. Associated with certain lesions of the liver in the rabbit are found parasites, of varying form and character.

2. The various forms represent the life cycle of a definite species of sporozoon, *Coccidium oviforme*. The necessary stages of the life cycle are traceable

3. In only one stage does the parasite resemble the cell-in-conclusion of cancer. Even this stage presents a definite and constant morphology.

4. The immediate effect of the parasite upon the host is to produce degeneration and destruction of the epithelial cells of the bile-ducts. Further results are seen in proliferation and cirrhosis.

5. Repair is effected through the walling off of the process by connective tissue, by the destruction of the remaining parasites, and finally by cicatrization.

On the whole the changes are those of a chronic inflammatory nature and do not indicate any relation to the cell-inclusions of cancer.

The second paper is on the subject of *Molluscum Contagiosum* by Charles J. White and W. H. Robey, Jr. It has been held by some observers that this skin lesion was due to a protozoon, but the conclusion here arrived at is that it has not been demonstrated that there is any

parasitic growth in the body and that the change is not a colloid or hyalin degeneration, but rather a metamorphosis of rete cells into keratin; and is not analagous to the lesion seen in cancer.

The third paper is entitled "Culture experiments with Malignant Tumors, by Oscar Richardson, in which the results of twenty-four inoculations, variously distributed among eighteen different media, are tabulated, and not a single case of growth of culture is found, being a strong argument against the existence of a specific infecting organism.

The fourth paper deals with four pathogenic *Torulæ*, which represent the most common species of these forms of plant growth, and which were examined by Joseph D. Weiss, in order to ascertain if any of them had characteristics suggesting the forms found in cancer. These were the organisms isolated by Sanfelice and Klein and which according to their theory were the cause of cancer.

These were found on examination to be *torulæ* and *saccharomycetes*; and as *torulæ* are to be found everywhere in the air and earth it is not surprising that they should be found associated with cancer.

In the fifth paper, Edward H. Nicholls examines the relation of *blastomycetes* to cancer, and as this is the most important of the investigations at least from the practical standpoint we give the conclusions more fully.

1. Certain *blastomycetes* can live and multiply in human and animal tissues, produce local lesions and metastases in the internal organs, *i.e.*, they are pathogenic.

2. The lesions produced in animals by spontaneous infection with *blastomycetes* are acute inflammations, abscesses or nodules of peculiar granulation tissue, and are not in the least analagous to cancer?

3. The lesions produced in human beings in cases of spontaneous infection with *blastomycetes* are acute inflammation (abscesses or ulcers) or proliferation of endothelium and connective tissue. At times a proliferation of the epithelium does occur but it is not due to the action of the *blastomycetes*, but is secondary to the chronic inflammation of the underlying corium. This proliferation of epidermis is not analagous to the proliferation of epithelium seen in cancers, since no epithelial metastases occur.

4. Blastomycosis in human tissues is very rare.

5. The lesions produced in animals by experimental inoculation with *blastomycetes* are, with the exception of Sanfelice's successful cases, inflammations or nodules of peculiar granulation tissue. Sanfelice's cases are not conclusive in themselves, are in direct opposition to the results obtained by all other observers, and, even if true, are logically explained as coincidences and not as results.

6. Blastomycetes, as a rule, cause marked proliferation of tissue, and little infiltration with leucocytes ; *i.e.*, their toxic powers are small.

7. Blastomycetes primarily extend along lymphatic clefts and vessels.

8. Rarely in human beings, more frequently in spontaneously infected animals, blastomycetes may be taken into the blood vessels, disseminated throughout the body, and produce a general infection and metastases.

9. The secondary nodules have the same character as the original nodules, *i.e.*, formation of granulation tissue.

10. The morphology of the so-called cancer bodies is not the same as that of the blastomycetes.

11. Blastomycetes are not constantly present in human malignant tumors and cancers.

12. Even if blastomycetes do occur in human cancers, they are not present in such numbers and in such a relation to the anatomical lesion as to justify the belief that they are the cause of the disease.

In the sixth paper, R. B. Greenough discusses "cell-inclusions," and gives the weight of his opinion derived from a careful investigation, to the support of the theory that these bodies are due to secretion, and not to degeneration, or to metamorphosis of the protoplasm.

On the whole, the report represents much careful and intelligent work, and, if it does not solve the vexed problem, it at least assists in clearing the way for further investigation.

Parasitic Origin of Cancer.

At the recent German Surgical Congress, held in Berlin, Professors Gussenbauer and Kahlden discussed the nature of cancer. Prof. Gussenbauer said that he was convinced of the parasitic origin of cancer. This view explained its local nature at first; the constitutional symptoms at a later stage; and the tendency to return, some parasitic infection being left. On this subject it may be appropriate to quote the words of John E. Erichsen in the seventh edition of his "Surgery," 1877: "Cancer appears to be a disease favored by, if not actually dependent on, the aggregation of individuals under the influence of an advanced civilization. Amongst savage tribes, as amongst wild animals, it is unknown. In the great centres of civilization, as amongst domesticated animals, it abounds. This circumstance points certainly to the possibility of there being a parasitic origin for the disease—to the possibility, in fact, of its being originally an organism that has entered the body from without. Of this, however, we possess as yet no evidence." It will be seen that twenty-five years ago, on clinical grounds, Erichsen was anticipating the work of to-day.

PROVINCE OF QUEBEC NEWS.

Conducted by MALCOLM MACKAY, B.A., M.D., Montreal.

THE tenth regular meeting of the Montreal Medical Society was held on May 16th. Dr. James Stewart brought forward a living case of cerebellar ataxia. This patient, a male aet. 15, had always been a delicate child but exhibited no definite symptoms of the disease until about two years ago, when he began to have difficulty in walking. This difficulty was first noticed when attempting to run, but very soon the patient had to leave school because he was unable to walk any distance. He managed to do light work for about a year but about two months ago found that he could not go upstairs without losing his balance and from that time has been under a physician's care. The family history showed nothing pointing to a predisposing factor, no other member of the family having suffered from any nervous disorder. It may be mentioned that the patient has a brother and sister younger than himself who are in perfect health. The general appearance of the patient gave one the impression that he was rather deficient in intellect, but on questioning him his memory proved to be good and he was certainly quick at figures. His gait was the characteristic staggering progression of cerebellar disease and he could only walk for a short distance without support. His feet showed a marked condition of 'pescavis.' Both knee jerks were increased and Babinski's sign was present together with ankle clonus on the right side. Sensation was normal throughout, and although there was a marked weakness of the right external rectus muscle, the pupils reacted to light and accommodation. Dr. Stewart considered the case to be one of Friedrich's ataxia of the so-called cerebellar type.

Dr. Finley then read a report of a case of myasthenia gravis. The pharynx and tongue were the portions chiefly involved. A lively discussion followed the reading of these case reports.

Dr. Robertson followed with a paper on the use of hyoscine before the administration of ether. He considered that it was of great value in diminishing the mucus secretion and preventing subsequent vomiting. He had only used it in a limited number of cases and did not think that general conclusions could be drawn from his experiments, but from his experience he thought the drug worthy at least of a trial and asked the members present to bring forward cases in order that a larger series might be made up by which he might check his results. Dr. C. G. Camp-

bell stated that he had used a number of drugs in this connection with varying success but that he had never thought of hyoscine and he did not see how any of its properties would enable it to attain the desired end.

Dr. Cushing gave a summary of a number of cases of pulmonary cedema which had been noted at the Royal Victoria Hospital. The treatment was discussed and he stated that although morphine was considered by some to be contraindicated, the only recorded cases of recovery in his series were those in which this drug had been used. Dr. Lafleur advocated the use of morphine, and illustrated the effects following its administration by citing several cases occurring in his wards at the Montreal General Hospital.

At the meeting of the Society on June 6th, Dr. Hutchison showed an enterolith, which had been the cause of obstruction in the sigmoid flexure of a female patient. About eight years ago this patient had a severe attack of biliary colic in which there was no jaundice but extreme pain. From that time until February, 1902, the patient continued to be in good health, when suddenly she was seized with severe abdominal pain. Purgatives did not relieve the condition and the abdomen became distended. Rectal examination revealed nothing, but it was found that a rectal tube met an obstruction in the sigmoid flexure. Bimanual manipulation eventually dislodged the enterolith and with it came away another smaller stone together with a quantity of blood and mucus. Examination proved that the stones were undoubtedly of biliary origin. In discussing the case Dr. Finley, who had been called in for consultation, thought it probable that the stones had ulcerated directly into the large intestine, for otherwise there would likely have been symptoms pointing to partial obstruction, at least, had they passed through the whole length of the small intestine, and again the absence of jaundice rather favored this conclusion.

Dr. Deeks read a short report of a case of angioneurotic cedema which affected the tongue as well as the parotid and submaxillary glands. On being called to see the patient he found her in a most alarming condition. Her eyes fairly bulged out of her head and the cyanosis was extreme. The patient was gasping for breath and appeared to be *in extremis*. A hypodermic of morphine and atrophine gave almost immediate relief, and within fifteen minutes the patient was quite comfortable. The past history of the patient showed that she was subject to attacks of asthma with coincident urticaria. Dr. Bickett mentioned a case in which the nasal mucous membrane became engorged and the breathing labored. A laryngeal examination showed that there was no cedema above the

cords, but that the tracheal mucous membrane was intensely injected, to such an extent indeed, that the breathing was of a distinctly croupy character. In this case also an injection of morphine gave almost immediate relief. Dr. Shines then read the report of a case of probable hæmorrhage into the grey matter of the right anterior horns, in the sixth and seventh cervical segments, followed by symptoms of Brown-Sequard's paralysis. The paralysis followed a febrile attack of some three weeks duration which was supposed to be typhoid fever, although no widal reaction was present. The paralysis was right-sided and the sensory disturbances were confined to the left side. All the deep reflexes were increased, thus showing that the upper motor neurons were involved, and again, the reaction of degeneration was found in several individual muscles paralyzed side pointing to a lower motor neuron degeneration. Dr. Shirres accounted for the symptoms by a hæmorrhage in the anterior horn extending to the lateral descending tract of the same side. Dr. Finley thought that an inflammation extending over the same area would also account for the condition, and pointed out that the febrile process preceding the nervous symptoms would make this diagnosis still more probable.

The fifty-eighth annual meeting of the American Medico Psychological Association is to be held in the Windsor Hotel, Montreal, on June 17th, 18th, 19th and 20th. Dr. J. R. Preston will deliver the presidential address on the morning of Tuesday the seventeenth, the evening session beginning at 8 p.m., when the first series of papers will be read. On Wednesday morning the report of the council will be received and this will be followed by the election of officers and other necessary business. McGill University will be visited in the afternoon and an informal luncheon will be served in the medical building by the members of the Montreal Medico-Chirurgical Society. At 8 p.m. the annual address will be delivered by Dr. Wesley Mills of McGill University. Thursday morning and afternoon will be devoted to the reading of papers, while in the evening a reception will be held for the visiting delegates by the board of management of the Protestant Hospital for the Insane. Friday will be given up to business and memorial notices. Between the regular sessions numerous entertainments for the delegates have been arranged for by the various medical societies of the city.

Another important meeting which is to be held this month is that of the French Association at Quebec, on June 25th, 26th and 27th. This recently formed society will meet in the buildings of the University of

Laval; where papers will be read and discussed under four headings: Surgery and specialties; Medicine, including mental diseases; Gynæcology and obstetrics; Hygiene and professional interests. The whole of the proceedings will be conducted in the French language.

The annual report of the Royal Victoria Hospital has just been completed. It shows that there were 2,679 patients admitted to the wards and 3,651 treated in the out patient department. The death rate for the year is 4.42 per cent., or deducting those dying within 48 hours of admission, 3.54 per cent. The report draws attention to the X-Ray Department which has been equipped with a very complete installation, also to the isolation pavilion which has been so designed as to afford accommodation for four different diseases being treated at the same time without danger of intercommunication. A detailed statement of the cases treated in the various departments follows the superintendent's report, and the records of the pathological department are also published, including a succinct account of each autopsy performed.

Interstate Licenses.

In the United States there is much discontent with the present system of licensing medical practitioners. A license from one state is no good in another. It is urged in some quarters that the general government should take the matter in hand. It is argued that this would be an interference with state rights. Dr. W. L. Rodman, of Philadelphia, is urging the formation of "a Voluntary Board of National Examiners." The certificates from this Board would be of such a high standard as would command the respect of the several states, and enable the holder of such certificate to register and practice. The same trouble exists in Canada. Each province has power to regulate its own educational affairs. A qualification, no matter from what body, does not entitle the holder to practice in another province. This condition has caused much inconvenience in the past. During the last session of the Federal Parliament, Dr. Roddick, of Montreal, introduced a bill to overcome these difficulties. It was passed by both the House of Commons and the Senate. As soon as the several provinces agree to the bill, there will be a common standard for the entire Dominion. It is hoped this will not be long delayed by any of the provinces declining to accept the terms of the bill.

MARITIME TOPICS AND NEWS.

Conducted by W. D. FORREST, M.D., Can., L.R. C.P. Lond., M, R. C. S. Eng., B.Sc. Halifax.

THE Board of Governors of Dalhousie University on the recommendation of the Medical Faculty have appointed Dr. Murdoch Chisholm, of Halifax, Examiner in Clinical Surgery. Dr. Norman F. Cunningham, of Dartmouth, Examiner in Clinical Medicine, and Dr. Hector H. McKay, of New Glasgow, Examiner in Materia Medica and Therapeutics, the latter to fill the vacancy made by the death of Dr. William S. Muir, of Truro.

The corner stone of the new Halifax Infirmary was laid by His Grace the Archbishop of Halifax on April 30th. The building is of pressed brick with granite facings, and when completed will be an ornament to the city. It is to be fitted up with all the modern improvements, and will be up to date in every particular. The operating room is to be built and equipped, as a memorial to the late Dr. Edward Farrell, who was always deeply interested in the welfare of this institution.

Halifax N. S. has recently been called upon to mourn the loss of one of its most prominent citizens Mr. James T. Hamilton. Up to a few weeks before his death Mr. Hamilton was mayor of the city—a position which he filled with credit to himself and to the satisfaction of the citizens—on three different occasions. Mr. Hamilton's death at the early age of 51 was due to malignant disease of the throat and during the last few weeks of his life his sufferings were, we are informed, intense. His will—made several days before his demise—is one which wealthy men in the Maritime Provinces might well take cognizance of. The concluding paragraph of the will is as follows.

"And whereas, I am desirous of helping to alleviate the sickness and suffering of deserving poor in the city of Halifax, I hereby will and direct that the said executors and trustees of this my will, after the decease of my mother, and after paying in full all the legacies and sums of money herein before in this my will provided to be paid, shall pay the residue or remainder of my estate to the Halifax Visiting Dispensary, said residue or remainder to be applied by said Dispensary with special attention to the relief of malignant diseases of the poor and the purchase of scientific apparatus and medicines to assist in the alleviation of same and in the curing of said malignant diseases."

The 34th annual meeting of the Nova Scotia Medical Society will be held at New Glasgow on July 2nd and 3rd. The president of the Society is Dr. John McKay, of New Glasgow—the secretary Dr. John Stewart of Halifax.

The address in Medicine is to be given by Prof. F. G. Finlay, of McGill University, that in Surgery by Prof. Armstrong of the same institution.

Besides the above there will be a Discussion on Vaccination in which Drs. A. P. Reid, A. Halliday and M. Chisholm will take part.

Dr. H. H. MacKay, of New Glasgow will read a paper on Insomnia, with some suggestions for treatment. Dr. Farrell, of Halifax will give a report on cases of Supra-pubic cystotomy and abscess of the Lung.

Many other papers have been promised some of which are as follows:

The treatment of Puerperal Sepsis, Ernest Kendall, M.D., Sydney. Mental Disturbances during the Puerperium, W.H. Hattie, M.D., Halifax. A short report on two unusual cases, J. N. Mack, M. D., Halifax. Gall Stone Diseases, M. A. B. Smith, M. D., Halifax. Notes on Smallpox, W. B. Moore, M. D., Kentville. Some indications for the use of Arsenic and Sodium Benzoate, E. Kennedy, M. D., New Glasgow. Senile Peritonæal Tuberculosis, A. Birt, M. D., Berwick. Albuminuric retinitis, Geo. Cox, M.D., New Glasgow. Notes on treatment of Enuresis, D. A. Campbell, M.D., Halifax. Examination of Water, chemical and bacteriological, A. Halliday, M.D., Halifax.

Previous to this year, the Nova Scotia Medical Board required of men wishing to practice medicine in the province, a certificate that they held a diploma from a recognized University or Medical School. Four years ago a bill passed the Provincial Legislature, making it compulsory for these gentlemen to pass an examination set by the Medical Board. This law comes into force on July 1st.

The examiners appointed under the Act for 1901 and 1902 are : S. A. Morton, M.A., Halifax, Karl Weatherbe, Windsor, Examiners in Physics ; G. T. Kennedy, Windsor, E. McKay, Ph. D., Halifax, Examiners in Physics ; F. W. Anderson, M.D., Halifax, J. G. McDougall, M.D., Amherst, Examiners in Anatomy ; H. H. Mackay, M.D., New Glasgow, L. M. Silver, M.B., Halifax, Examiners in Physiology ; W. B. Moore, M. D., Kentville, M. A. B. Smith, M.D., Halifax, Examiners in Materia Medica and Therapeutics ; C. E. McMillan, M. D., Whytegomate, C.B., A. P. Reid, M. D., Kentville, Examiners in Medical Jurisprudence ; W. H. Hattie, M. D., Halifax, J. A. M. Hemmson, M.D., Bridgewater, Examiners in Pathology ; M. A. Curry, M. D., Halifax, W. S. Muir, M. D., Truro, Examiners in Obstetrics and Diseases of Women ; N. F. Cunningham, M. D., Halifax, A. J.

Cowie, M.D., Halifax, Examiners in Medicine ; J. F. Black, M.D., Halifax, N. E. McKay, M. D., Halifax, Examiners in Surgery ; Dr. H. H. Read, Halifax ; Homoeopathic Examiner.

PERSONAL.

Dr. M. A. Curry of Halifax, has been appointed to the medical staff of the coronation contingent. He left a few days ago to join it at Quebec.

Dr. John Purcell has been appointed assistant city medical officer of Halifax. This is a new appointment, the work having previously all been done by the one man.

Dr. D. N. Morrison, late of Oxford, N.S., has, owing to ill health, given up practice for a time, and intends spending the summer in Halifax.

Dr. J. G. McDougall of Amherst, who has been confined to his house for some weeks back, is, we are glad to say, able to be about again.

Dr. George Gandier of Picton, was married on June 5th to Miss Annie Dickson of St. John. Dr. Gandier and bride left immediately after the wedding on a tour through Canada.

Dr. L. M. Crosby of Yarmouth, has recently returned from London. While in that city he devoted his attention to the eye, ear, nose and throat. Dr. Crosby intends practising his specialty in Charlottetown, P. E. I.

Safety of Chloroform and Ether.

Drs. Crouch and Corner, in the LANCET for 24th May, enter fully into this interesting subject. They arrive at the conclusion that chloroform is safer than ether as a general anaesthetic. They show that after the administration of ether there is, on an average, one case of respiratory inflammation in every 240 cases of ether anaesthesia. Such is not the case after chloroform. There is one death in 3,000 cases of chloroform anaesthesia. In ether there is one in every 2,400 cases. In chloroform, the death occurs during anaesthesia ; whereas in ether it is after the administration. When all the facts are fully considered, ether has no advantages over chloroform.

MILITARY MEDICAL TOPICS AND NEWS.

Conducted by Lt.-Col. Nattress, P.M.O. M.D. No. 2.

The following extracts are taken from a letter received by me a short time ago from Capt. J. A. Roberts, 10th Canadian Field Hospital, Field Forces, South Africa :

IN CAMP AT DRISKINS,
GENERAL KITCHENER'S COLUMN,
April 10th, 1902.

DEAR DOCTOR NATTRESS,—

Nothing of particular interest transpired during the trip, bar the development of four mild cases of small-pox. The daily monotony of sea was occasionally varied by the appearance on the horizon of a sail. Once we saw a whale, but every other denizen of the deep kept in seclusion. We anchored in Table Bay in about twenty-four days from Halifax. My first view of South Africa was the city of Cape Town, with Table Mountain in the background, and I must say I was very favorably impressed. During the course of the morning the local health officer and P. M. O. came out to us, and our sick—including the four small-pox cases—were taken ashore. Then every man on the vessel was vaccinated, and you can imagine how busy we were for a few days. Toward evening orders came for us to proceed to Durban, and we started at once. During the next four days we were within sight of the shore most of the day, and sometimes we were quite close in. Through the glasses we could distinguish everything of interest, so this extension of our trip lacked monotony. About February 28th we reached Durban, to find the bay full of transports, mule vessels, etc. The real harbor has a very narrow entrance and until the opening of this war was considered impassible for large vessels. Recently the British Government have kept two beautiful dredges at work on the bar, and have extended the piers until now almost any vessel can with care be taken in. At 6 a.m. the pilot came out to us and by 8 a.m. we were moored alongside our dock. The railway spur runs to the side of the ship, so we had not far to go, and the work of unloading the horses and equipment began at once. As soon as each squadron was disembarked it was loaded into a train and sent up country; the destination being Newcastle. We were the last to be unloaded, and as usual the transport trucks were insufficient to carry our equipment, so it remained behind in charge of our Quartermaster Tre-

mayne. If anyone ever tells you that the railroads of this country consider the comfort of the travelling public they are either trying to talk of something with which they are not familiar, or they are kidding. The train which we drew consisted of an engine about the size of a Daisy furnace, and closely resembling one. At any rate, I am sure it would prove as great a success as a heating apparatus as it did as a traction engine. Without exaggeration I am sure it travelled at the tremendous rate of four miles per hour most of the day, and the remainder of the time it positively refused to move at all. It has one great advantage, that it enabled us to see the country, and we did want to see this section. During this trip we passed through the country so closely associated with the early operations of the war under General Buller. Colenso, Dundee, Glencoe, Talana Hill, Ladysmith, etc., need only to be mentioned. In about three days we reached Newcastle, the advanced depot of Natal, and were placed in a quarantine camp for two weeks. This was rather slow, but enabled the men and horses to change sea legs for land ones. The second day in camp Lord Kitchener, commander-in-chief, visited us, and spoke very nicely to our officers.

Of course the R. A. M. C. men of the vicinity rushed in to inspect our equipment, and the usual board met on us. Everyone seemed delighted with what we had, and wanted to get some parts of it. Finally we were ordered to trek to Volksrust, the border town of the Transvaal, and the change was hailed with much pleasure. Again we were most fortunate, as the trail led us to Ingogo the first night, then along the base of Majuba, and over Laing's Nek on the second day. After a rest of a day we were again loaded into trucks, our ambulances put on flat cars, and we started across country for this locality, our destination being Klerksdorp.

In three days an order came for a part of the hospital to be sent to join the column under General Kitchener, so Major Jones, myself, ten orderlies and four transport men with four ambulances were detailed for the work. It was to last for seven days, but we have been out for three weeks and it now begins to look like a permanent affair. During the first week or so we treked about from place to place, usually at night, and had one tremendous march of twenty-three hours, covering 90 miles. It was a drive which resulted in the capture of 150 Boers, roughly speaking. After this march I had my first experience with gun shot wounds.

Again began a series of apparently useless trips, and they were growing monotonous until an event took place on Easter Monday which added considerable zest to the game. On Sunday evening I received orders to proceed with three empty ambulances to Col. Cookston's column.

About 12.30 p.m. the scouts and advance guard came into contact with the enemy in force, and an engagement at once began, and we had seven casualties. As soon as firing began I hustled my ambulances forward and reached the front in time to see the enemy retiring over a rise ahead. I picked up the wounded, and had just finished the primary dressings when the main body came up. The commanders at once held a conference and decided to go into a defensive position at once. The wagons were laagered and a good position taken up. The arrangements had just been completed, and I was in the act of doing my dressing, and attending to my wounded when a 15 lb. shell came screaming over the camp. I looked up and saw that the Boers had three big guns and a pom-pom in position, while on every side we were surrounded by their riflemen. Then it became very warm. The first two or three shells pitched over the camp, but then they got the range perfectly, and every one dropped somewhere in the camp confines. The guns used against us were those taken from Lord Methuen recently. Fortunately they did not fully understand timing the shells, and the greater part of them burst too high in the air, or not until they had struck into the ground. Our men took up their various positions around the camp and lying down, opened fire on the enemy. The action began about 1.30 p.m. and was sustained with great vigor and determination for two and one-half hours, and that was about the busiest time I have ever experienced. From the first moment of the fight wounded men began to pour into our hands. The doctors of the column had collected at my ambulances, so all the wounded came to us. By an hour's time we had almost every available inch of space covered with wounded, and still they came in. How we handled them I don't know, but we did. Unfortunately our position was the most exposed one in the camp. Twenty yards to our front was a spruit half full of water, and the bank was lined with riflemen, some 75 yards in our rear and firing over our heads, were two pom-poms. The Royal Horse Artillery had three guns in action some thirty yards to our left, while the horses some 1500 in number, belonging to C.M.R. Damant's Horse, M. I., etc., were in a big bunch some forty yards to our right. The rifle fire was severe on all sides of the camp, and our position was such that it converged on us from three directions. The artillery in our immediate vicinity drew the fire of the enemy's guns, hence it is not at all surprising that a score of the shells dropped in our hospital lines. A score of wounded men were hit as they lay about our ambulances, and some were killed. It looked as though the fire was directed on the ambulances, but I think this was due to our proximity to the artillery and pom-poms. At any rate we had a decidedly warm corner. I was so busy, that I really never thought of being shot

myself, and I went about doing my work as best I could, soon became accustomed to the screaming of the shells and the zip, zip of the rifle bullets. Only once did I stop to think that possibly I might also be the billet of one of these invisible projectiles, and that was when Gunn, one of my orderlies, was shot. I was dressing a man shot through the chest, and I had asked Gunn to raise his shoulders from the ground while I put on the bandage. He leaned forward, raised the man and I proceeded to pass the bandage around the chest. Had made two or three turns when I heard zip and a thud in quick succession. Poor Gunn collapsed and I knew he was hit. An examination showed that the ball had entered over the left scapula passing downward diagonally across the body, the exit being in right lumbar region about two inches from medium line. How I escaped is a miracle as my head was resting on his left shoulder at the instant he was hit. Poor chap was afraid the ball had passed through my head before hitting him. He is doing nicely and will be fit for duty again in a few weeks.

As soon as the enemy were driven off, I went out into their lines under a red cross flag, and saw Generals Van Zyl and Kemp, and oh! great cæsar, what a bunch of Boers there were.

Then work began. Several cases required instant operation, and we amputated a leg and two arms. I wish you could have seen those operations. All the aseptic and antiseptic teachings of surgery had to be thrown to the winds. We had only one basin of dirty water, a big knife, two or three pairs of surgery forceps and some needles and sutures. The operating room was an old bell tent with six dying men in it. The operating table was a dirty stretcher, and yet the results were good. No suppuration to date. After finishing these and several minor operations, such as cutting out bullets, I had to pitch in and look after my wounded men, most of whom were in great distress. This kept me busy until about 3 a.m., and then I turned to and assisted in digging a trench, in which we placed our wounded to protect them from the rifle fire, for we certainly expected an attack with the dawn. To make matters worse it began to rain. Really, one could not look at those poor suffering fellows without having all one's sympathy go out to them. I forgot my own discomforts, and was thankful that my lot was not theirs. Morning at last came, but no Boer attack; and when it became sufficiently light we saw that they had drawn away during the night. Then we went out over the surrounding ground and picked up the dead and wounded. By 9 a.m. our hospital resembled a—I cannot think of any fitting comparison. Thirty or so dead lay in a row, and we had loaded the wounded into ambulances, buck-waggon, Cape carts, in fact anything we could utilize as a conveyance. The various corps "told off" burying

parties, and it was a sad sight to see them winding the dead in b'ankets and carrying them off for burial.

I had a hard day after my return as there were fully a hundred men to attend to, but finally everything was done, and I at once went to sleep, and I think I worked Morpheus for all he was worth. Next day we did two major operations on chaps shot in the face by shell fire. Since then there has been an operation almost every day. Yesterday I elevated a depressed fracture of the temporal region, and in an hour the chap spoke the first word since he was shot. I had hoped for experience of this nature, but my fondest hopes have been more than realized.

All of the military men say that our camp sustained as hot, if not one of the hottest, shell and rifle fires on record during the present war. Not having been in any other, I cannot institute a comparison, but it certainly was warm enough to suit me. In all probability I will not have another opportunity of enjoying such an experience again, but I am still anxious to see further fighting. There is something very fascinating about the suppressed excitement of an action. We ran into a sort of jack-pot, it seems. Six commandos under Delarey, De Wet, Kemp, Van Zyl, and the other leaders I forget, had met to discuss the further plans of campaign. We ran into them as they were holding the conference, and so met 2,500 of the best fighting men at present in the field.

There is only one thing further to tell you about this fight at Bosch-bolt, and that is the sad side. We had twenty-six killed and one hundred and thirty-nine wounded. Of these, some eleven Canadians are dead and thirty-six wounded. I had nine horses and six mules tied to the poles of my ambulance, and I lost eight horses and four mules (shot). Had to borrow transport before I could move. Two companies of C.M.R. under Carruthers, of Kingston, behaved very well, indeed, and sustained heavy loss. Among the dead is Kinsely, the first man examined by you in Toronto.

In another letter I will try to tell you something of the hospital arrangements of the army so far as I have seen them, but I am deferring it, hoping that I may have an opportunity of going through them thoroughly. We find our light ambulances a great success, but they require four transport horses or six mules. We find the hospital tents a great success, and they will stand anything. Had them up in as severe a storm of wind and rain as one could imagine, and they stood the test admirably.

We learn from late reports that for his gallant work that day Captain Roberts was "mentioned in despatches."

AMONG THE SOCIETIES.

The American Urological Association.

The first annual meeting of the American Urological Association was held in Saratoga, N.Y., June 13th and 14th, under the Presidency of Dr. Ramón Guiteras. The object of the Association is the study of the male and female urinary tract in health and disease.

The Canadian Tuberculosis Association.

This association held its annual meeting at Ottawa on 17th and 18th April. Sir James Grant, of Ottawa, presided. The meeting was a representative and influential one. His Excellency, Lord Minto, delivered an address. There were valuable papers read. It was agreed to establish a central organization at Ottawa, with a paid secretary. The Federal and Provincial Governments are to be asked for aid, as there are 40,000 consumptives in Canada, with an annual death-rate of 9,000. Some check should also be placed against the introduction of consumptives into the country. It was thought that all hospitals receiving public aid should make provision for tubercular cases. W. C. Edwards, Esq., M.P., was elected president, and H. B. Small, M.D., secretary.

The Canada Medical Association.

The Canada Medical Association will meet in Montreal on 16th, 17th and 18th of September, under the presidency of Dr. F. J. Shepherd of that city. Dr. George Elliott, of Toronto, is the general secretary, and Dr. Martin, of Montreal, the local secretary. Information can be obtained from either of these gentlemen. Dr. Osler, of Baltimore, will deliver the address in medicine, and Dr. Stewart, of Halifax, the address in surgery. Efforts are being made to make the meeting one of much interest and value. It is hoped the profession of Canada will give the association their support by a large attendance, the reading of papers, the presentation of cases, and taking part in the various discussions.

Below will be found a list of papers already promised for the annual Meeting at Montreal in September next. Members and others contemplating contributing to the success of this meeting should notify the General Secretary at an early date of their intention. Arrangements as to Railroad and Steamship rates, Entertainments, Clinics, etc. will be announced in due time. The following have been promised so far:—Professor Osler, Baltimore, the address in Medicine; John Stewart, Halifax, N. S., the address in Surgery; Dr. Corlett, Cleveland, Ohio, Lantern Demonstrations on the Exanthemata; James Stewart, Montreal, Some points in

Cerebral Localization with Cases and Specimens ; J. R. Couston, Huntingdon, Que, the Country Practitioner of to-day ; A. H. Ferguson, Chicago, the Pathologic Prostrate and its Removal through the Perineum ; Casey A. Wood, Chicago, Empyema of the Frontal Sinus ; J. F. Macdonald, Hopewell, N.S., on Tuberculosis ; A. R. Robinson, New York, X-Ray in Cancer ; David A. Shirres, Montreal, on Degeneration of the Spinal Cord, Anemia, Malnutrition with Microscopic Specimens ; Papers are also promised by D. Campbell Meyers, Toronto ; G. S. Ryerson, Toronto ; A. Laphorn Smith, Montreal ; F. A. L. Lockhart, Montreal ; G. A. Peters, Toronto ; P. Coote, Quebec ; Geo. E. Armstrong, Montreal ; and Ingersoll Olmstead, Hamilton.

Toronto Medical Society.

The President, Dr. F. N. G. Starr, in the chair.

Dr. Hay moved that visitors be extended the privileges of the Society and be asked to take part in the discussion. Carried.

Dr. S. M. Hay read his paper "Some Important Points to be noted in Life Insurance Examinations." See page 679.

Discussion: Dr. Oldright said it was a question how far we were justified in taking statements of applicants. Urinary analysis is now required by all companies. Applicants were not told this by the agents. The urine should not be brought to the office in a bottle, but should be voided in the presence of the examiner. Association with tubercular people is just as important as heredity. Heredity on one or both sides is important, also any history of straight infection. A single instance of straight infection being much more favorable to the applicant than a case of hereditary taint on one side or the other. He said the remuneration to the examiner was too small for the amount of work and running round required of him. He also spoke of the protection of the examiner, stating that companies too often changed their local examiner to please an agent. This should not be as long as one man is giving satisfaction and doing good work. Preventive medicine was a subject not taken up by insurance companies. Cases of appendicitis, operated upon, he considered better risks, even earlier than Dr. Hay had said, than cases cured without operation even after six years.

Dr. John Ferguson said: Applicants were often first-class in one part of the examination, fair in another, and poor or bad in another. As for instance, personal history may be first-class, family history bad, physical examination good or first class, or all these first-class and the moral and social elements bad. These must all be considered carefully before recommending an applicant. A very important point was the difficulty of making an examination in the applicant's office or place of

business. The urine should always be voided so that the examiner knew no substitution or alteration was possible. It was not always possible to get a sample. An examiner should always be on the outlook for first impressions gained from a general inspection and view of the applicant. A family history showing early deaths indicated a general lack of vitality in the family. He fully agreed with Dr. Oldright re cured cases of appendicitis. Some diseases were an advantage as typhoid, smallpox, etc. He divided alcohol users into three classes: 1st, Spree class—a drunk with friends, a jollification. 2nd. Dyspnomaniacs—periodical outbreaks, ending in delirium tremens. 3rd. Dram drinkers. Classes two and three were rejectable lives. Occupation was important, and indefinite answers should never be taken as clerk, traveller, etc. The following points of the examination should always be carefully considered: 1, Heredity—the whole family history; 2, Personal record; 3, Proportionate height, weight, expansion and measurements; 4, Occupation, social habits, and moral condition.

Dr. W. J. Wilson said, in a large proportion of middle aged persons, no albumin would be found until after repeated examinations. The urine may be of low sp. gr., but granular casts were frequently demonstrable, without albumin being shown by chemical tests. The arterial condition should be considered, as to there being evidence of sclerosis in the radial or temporal arteries. A velvety condition of the skin, or spotting, were important, and should put the examiner on his guard. The heart sounds should be proportionate.

Dr. Clouse said medical students should receive a special course in insurance examinations. He thought the supreme examiner often made mistakes by laying too much stress upon proportions. It was sometimes very hard to put down for the head office, the answers received, so as to give correct and proper information. Urinalysis was very important. He thought sugar may be occasionally found in perfectly good risks. Some individuals were very prone to meet with accidents and were therefore not first class, because of some visual defect, or nervous condition, which of itself did not amount to much, only in its bearing upon the safety of the applicant. The moral element mentioned by Dr. Ferguson he considered very important. Having had contagious diseases indicated a condition of lowered vitality.

Dr. Ashton Fletcher said that he did not agree with Dr. Hay that tall men were usually better risks. Short men, he said, usually had greater lung capacity. That the difference between expiration and inspiration was usually greater in short men than in tall men. Therefore Dr. Hay's rule that the mean chest measurement should be half the height was not sound. Short men were less liable to accidents, being

more agile and sure footed. He noticed some companies were beginning to wake up to the importance of preventive medicine. One company was asking the questions: How long after the death of a consumptive did you occupy the same house or room? Have you been closely associated with a consumptive? Another company asks: Have you used patent medicines? If so, what for.

The president said, "Do not write normal." State the facts. A question that should be on every form is, "Does applicant in illness use a qualified regular medical man"? It was hard to get a correct family history. Was death at child birth, during labor, or a week, or six weeks after? were questions hard to answer and meant much to the chief examiner. He knew cases of hernia cured by the injection method accepted by companies, though he considered them unsafe, as he had seen at post mortem a knuckle of intestine attached to the sac, by adhesions which formed a stoppage, causing death. Underweight men were prone to tuberculosis. The pulse should be taken with three fingers.

Reply. Dr. Hay said the referee was not justified in accepting cases with sugar in the urine where found frequently. But many cases might have been accepted, who were rejected. The applicant must be examined thoroughly, even if the local examiner is sure he would not pass. He made the same reply re albuminuria as re sugar. A very important point was the question: "How long have you known the applicant"? He would consider much more favorably the recommendation of the local examiner if he had known the applicant some years. Short men with large chests were out of proportion and usually too fat.

The treasurer's report and the recording secretary's report were read and adopted, showing the society financially strong and doing good work. The membership had been increased by eleven during the year, the average attendance being twenty-five.

The officers elected for the ensuing year were:—President, S. M. Hay; First Vice-President, G. Silverthorn; Second Vice-President, J. Hunter; Corresponding Secretary, — Beatty; Recording Secretary, Ashton Fletcher; Treasurer, G. H. Carveth; Committee, F. N. G. Starr, Hooper, Fisher.

The Ontario Medical Association.

The twenty-second annual meeting of the Ontario Medical Association has come and gone. Of the now long list of these gatherings, this year's one was particularly successful. It reflected much credit upon those who had been entrusted with the arrangements. It is no sinecure to plan and carry out successfully such an event.

The papers and discussions did credit to the profession of this

Province. To one who has watched closely these annual meetings it is at once apparent that the medical profession is becoming steadily more advanced in its views of medical science. There is a full appreciation of the responsibilities that rest upon it, as a learned profession; and as full a determination to discharge its duty in the interests of the public weal.

An important feature of the recent meeting was the exhibition of a considerable number of interesting cases. Much benefit is often to be derived from the study of such cases by a number of members of the profession, as in this way different aspects of these cases are brought out.

THE PRESIDENTIAL ADDRESS.—Dr. N. A. Powell delivered an able and timely address. He touched upon a number of very important topics. It is hoped that careful attention will be given to these matters, and that some effort will be made to carry some of the suggestions into effect. Among these subjects may be mentioned his remarks on the Dominion Medical Council Act, the house-surgeon, vaccination, improper advertising, and the maintenance of a high standard of medical education.

JUDGE McDUGALL'S ADDRESS.—A feature of the meeting this year was an address from his honor Judge McDougall, on medical testimony, and especially expert evidence. He pointed out that medical men might give evidence as to facts; or give their opinion on these facts, or any set of facts. This latter was expert evidence. Thus, if asked in what condition he found a person, he would only be relating facts; but if asked what would cause the condition, the answer was opinion evidence, or expert testimony. Evidence must be authenticated; or, in other words, taken under oath, by proper declaration, or as an *antimortem* statement. Evidence might be direct, or what the witness saw, or heard, or what was within his own knowledge, or observation. On the other hand, indirect evidence was circumstantial, or inferential.

Expert evidence is of much value. Juries, and often Judges, do not understand the scientific meaning of many things in medical and surgical experience. The medical witness could explain these; or, in other words, give opinion evidence on the facts. This enabled the jury to understand the case much better. Thus a child might be seriously burned, and opium given for the relief of its pain. On the death of the child it might arise as to whether the child died of the burn or the opium. Here the expert could throw much light on the case. With regard to the difference of opinion among experts, it ought to be remembered that there must always be some difference. This difference might be quite honest opinion, or it might be due to ignorance.

Before opinion evidence is given, all the facts should be understood

and considered by the witness. He should hear all the other evidence bearing on the case. An expert witness should avoid appearing to be an advocate. This was likely to discredit his evidence. In, say, a will case, it is not the duty of the expert to decide testamentary capacity, but merely to show whether the person was of sound mind or not, and to what extent the unsound state of mind existed. It was for the Court to then determine the capacity to make a will.

When there is much divergence of opinion, the Judge may direct the jury to reject the expert evidence, as the jury is not bound to hear expert opinion. The cause for so much difference of opinion is to be found in the present method of selecting experts. Those are chosen who are known to be favorable to a certain view of the case. It is natural for the witness to see the side succeed that employs him. This tends to influence the witness, and make him appear an advocate. It is very difficult to resist this sort of thing. A railway surgeon may not wish to see the company which employs him heavily mulcted.

Cross examination is conducted too often in such a manner as to show that the opinions already given are not true, or that they are ridiculous. This is a studied effort to conceal the truth and not to elicit it from the witness. This goes on on both sides. No wonder that a bad opinion is often created regarding the expert.

The remedy is to be sought in a new method of appointing or selecting the expert. He should be chosen by the Court, or Government; but not by the litigants. The expert should be an impartial assistant to the Court. His opinion should be taken by the trial judge. In this way he would not be partizan. He would give the Court a scientific or technical explanation of points of the case as it progressed. His fee should not come from the litigants, but from some fund provided for such a purpose.

A very important matter in giving expert evidence is always to avoid technical terms. As far as possible use simple language.

Dr. S. A. Knopf—A very pleasant surprise to the members of the association was the unexpected visit of Dr. S. A. Knopf, of New York, who is known to every physician to have paid great attention to the question of tuberculosis. He spoke in no uncertain manner against the attempt to regard consumption as an acute infectious disease. Such teaching is calculated to do a vast amount of harm to the crusade against the disease. It was undoubtedly a communicable disease, but, in pulmonary tuberculosis, the danger lay in the sputum. Proper destruction of this did away with the risk of infection. He pointed out that it was unnecessary to place difficulties in the way of either the patient or the physician. This new fear he called phthisiophobia. He held that, with

proper safeguards, there was no danger. He argued strongly for the spread of the view that tuberculosis was a preventable disease and that the great efforts of medical men should be along this line. The public should be roused to take this view, and to furnish sufficient and efficient means of dealing with this disease.

He took strong ground that consumption, especially in the incipient stage, was a curable disease. Many got well without treatment. He deprecated too much drug treatment in these cases, and advised against the administration of the coal-tar products. He said that many stomachs had been injured by creosote, and that it should never be given so as to irritate this organ. But, on the whole, the less drugs the better.

The treatment consisted in air, food, and water. With regard to air, this meant abundance. Night and day the patient should be in fresh air. Consumption was not only a communicable disease, but it was a social disease, arising out of crowding and bad sanitary conditions. With regard to food, the rule was plenty good nourishment. No special dietary had any advantage. He encouraged the use of cold water. The patient is sponged for a few days with alcohol; then for a few days or a week with half alcohol and water; and then with cold water and well rubbed. Everything was in the proper employment of simple means.

Dr. Knopf urged that it was the duty of the general practitioner to be on the alert for early cases, and to give efficient directions for the management of these. In this way, many cases would be cured, and much prevention attained. Reporting cases was favored. This did not mean that the cases were to be isolated, or placarded, nor interfered with by the health officer, as to treatment or directions, but merely that the physician in charge might have suitable instructions, or printed matter sent to him to give these cases. It would be of value, too, from a statistical point. In all our efforts, as little fear should be created as possible, as it might deter the consumptive from seeking advice, for fear of losing his situation, or being shunned.

Dr. Park's Address—Dr. Roswell Park spoke on some aspects of gall bladder surgery. He advocated the removal of the gall bladder in cases of acute infection inflammation and chronic disease, with recurrent attacks. These latter he spoke of as "growling cases." He compared the gall bladder and the appendix; and stated that the treatment was largely the same, namely removal. When the gall bladder is exposed, it is opened. This admits the fingers as guides to the operator. When the gall bladder is freed from its attachments it is removed. In the cases where he had performed this operation he had had no call to regret the procedure. There were many examples of disease in the gall bladder that could only be successfully treated in this way.

The meeting this year was a very busy one indeed. There was a long list of papers, and many very interesting cases. Some thirty-five papers were read, fifteen cases were shown, and number of interesting preparations and specimens, and two very excellent lantern demonstrations, by Dr. McCallum, of London, on nervous diseases, and Dr. Hodgetts, of Toronto, on cases of smallpox. These were highly appreciated by those present.

The luncheon, in the gymnasium of the Normal School, was well attended, and as well enjoyed. Short and bright speeches were made by Drs. W. B. Geikie, R. A. Reeve, Roswell Park, of Buffalo, J. A. Temple, J. C. Mitchell, G. A. Bingham, A. R. Robinson, of New York, and Harrison. The success of the luncheon reflected much credit on those who had the matter in charge.

The Committee on Public Health, through its chairman, Dr. Hoig, strongly recommended that a provincial health officer be appointed. The present system of having local, and unpaid medical health officers, was not satisfactory. The local medical health officer was often called upon to perform an unpleasant duty, that might give rise to difficulty with a neighbor practitioner. All this could be avoided and the law more strictly enforced by the plan advocated in the report of the Committee. The report was unanimously adopted.

The report of the Committee on Publication contained a very important recommendation, namely that the proceedings be issued this year in book form. This seemed to meet with much favor, and was adopted, power being given the Committee to proceed with the work of publication. To assist in this, notice was given that next year, the rules of the Association be amended so as to require all members to pay their annual fee, whether present at the meeting or not.

The officers elected for next year were:—President, J. C. Mitchell, Enniskillen; first Vice-President, G. A. Bingham, Toronto; second Vice-President, W. G. Anglin, Kingston; third Vice-President, J. W. T. McCullough, Alliston; fourth Vice-President, J. D. Meekle, Mount Forest; Secretary, H. C. Parsons, Toronto; Treasurer, A. R. Gordon, Toronto.

Should the proceedings not be published, it was agreed to grant the Ontario Medical Library Association \$100.

To Build Sanitarium.

As a result of the recent tuberculosis conference, two gentlemen have offered to build sanatoria at their own expense. One is Sir Wm. Macdonald of Montreal, who will build one probably in the neighborhood of Montreal. The other is Mr. W. C. Edwards, M.P., whose sanitarium will be in the neighborhood of Ottawa.

UNIVERSITY AND COLLEGE NEWS.

The University of Toronto has passed the following for the degree of M.B.: Miss E. L. Anderson, A. E. Archer, G. H. L. Armstrong, G. M. Atkin, W. J. Bell, A. Brown, J. L. Campbell, W. J. Chambers, Miss E. Conor, W. S. Dakin, J. E. Davey, G. C. Draeseke, H. R. Elliott, J. Esler, A. Fisher, G. W. Fletcher, J. J. Fraser, E. E. Fry, J. E. Godfrey, J. S. Graham, J. N. Gunn, V. E. Henderson, E. T. Hoidge, J. L. Huffman, J. R. Irwin, E. P. James, W. T. Kergin, H. Logan, D. McBane, H. N. McCordie, A. D. McEachern, N. T. Maclaurin, Miss MacLaren, W. A. R. Mitchell, A. Moir, C. H. Montgomery, W. G. Montgomery R. H. Mullin, A. Murdock, H. E. Roaf, R. W. Rutherford, P. W. Saunders, F. Short, D. Smith, A. E. Snell, L. L. Stauffer, H. J. Sullivan, W. T. Wallace, O. C. Withrow, A. B. Wright, O. Klotz.

In medicine the medals and scholarships awarded are :—

Medals—Faculty gold medal, H. E. Roaf and P. W. Saunders, aeq.; first faculty silver medal, G. W. Fletcher; second faculty silver medal, A. Moir; third faculty silver medal, A. E. Archer.

Scholarships—First year, 1 W. S. Lemon, 2 R. L. Clark; second year, 1 A. Kinghorn, 2 S. B. Walker.

Fourth year, degree with honors—G. W. Fletcher, P. W. Saunders, H. E. Roaf, E. J. Davey, H. M. McCordie.

CONVOCATION HALL FUNDS.—The report of the University of Toronto Convocation Hall fund for the week ending June 7 shows an increase of \$1,263.50. The subscriptions received so far total \$12,882. The graduates of the various years in arts, law and medicine are responding generously.

NEW MEDICAL BUILDINGS.—The work of erecting the new University medical building will be commenced at once. The building is to be located between the library and the biological buildings. It is expected to be ready for occupation by the beginning of 1903. When completed, the medical and the physiological departments will have laboratories and lecture room of the most modern and approved type.

Trinity University, on 30th May, conferred the degrees of M.D., C. M., on the following persons :—

Adams, William F.; Allin, Edgar W.; Allwood, Stanley G.; Anderson, Archibald H.; Blake, Matthew R.; Boyce, William B.; Brandon, Edgar; Burns, James D.; Campbell, Thomas C.; Carter, John R. C.; Cassidy, Mabel A.; Clancy, Robert W.; Davis, Annie; Gilbert, Francis O.; Harris, William J.; Henderson, James; Hutton, Herbert B.; Imrie, Geo. T.; Irving,

Robert N.; McCauley, William A.; McDougall, Charles H.; McKay, Harvey.; McMaster, Elizabeth.; Morrison, John R.; O'Neill, John H.; Ritchie, Frederick A.; Robertson, William; Ross, Annie; Service, Herbert E.; Seymour, Theodore F.; Smith, William A.; Stenberg, Oscar; Thomson, Isabella M.; Thomson, John; Thomson, John Joseph; Waters, James M.; Waugh, Reuben; Williams, William T.; and Wood, Isabella S.

In the final year, the Gold Medallist was J. J. Thomson; and the Silver Medallist R. W. Irving.

The following Candidates were awarded Certificates of Honour in the Final Examination, J. J. Thomson; R. W. Irving; F. A. Ritchie; W. T. Williams; E. W. Allin; W. A. McCauley; H. B. Hutton; E. Brandon.

The Primary Silver Medallists, were, First G. A. Durnin; and Second R. A. McLurg.

In the Primary Examinations Certificates of Honour were awarded to G. A. Durnin; R. A. McLurg; A. J. Fraleigh; R. J. Manion; H. A. Bray; J. R. Serson; J. A. Brown; and J. F. Adamson.

Trinity Medical College closed its thirty-first session on 31st May. The following medals, fellowships, scholarships and standings were awarded:—

Certificates of honor,—R. W. Irving, J. J. Thomson, E. W. Allin.

First class,—E. Brandon, F. A. Ritchie, S. G. Allwood.

Second class,—W. T. Williams, W. A. McCauley, H. E. Service, J. R. Morrison, R. W. Clancey, J. H. O'Neill, H. B. Hutton, W. B. Boyce, O. Stenberg, J. D. Burns, R. Waugh, J. Thomson, W. J. Harris, A. H. Anderson, T. F. Seymour.

Passed—H. McKay, J. R. C. Carter, W. A. Smith, C. H. McDougall; G. T. Imrie, L. J. Isaacs, J. Henderson, E. E. Latta.

The winners of the various prizes were:—Special prize in physiology (Dr. Sheard's), for the first year, value \$25—E. J. Hagan. Scholarships—The 1st first years's scholarships, \$50, R. R. Smale; the 2nd first year's scholarship, \$30, G. H. Carlisle; the 3rd first year's scholarship, \$20, T. C. Brereton; the 1st second year's scholarships, \$50, G. A. Durnin; the 2nd second year's scholarship, \$30, R. A. McLurg. The College gold medal, Robert Washington Irving; the first College silver medal, John Joseph Thomson; the second College silver medal, Edgar W. Allin.

Manitoba University at the convocation on June 6th, granted the degree of M.D. to the following persons:—A. F. Anderson, R. H. Brett. B.A., R. J. Cooke, B.A., A. T. Condell, B.A., J. A. Creighton, B.A., A. K. Cranston, A. G. Denmark, D. R. Davies, F. W. Dykes, W. G. Lyall, J. A.

Montgomery, H. McGavin. A. A. Nicholls, W. Z. Peatman, W. Sinclair, P. D. Stewart, W. H. Wardell, H. W. Wadge.

W. S. McDonald was granted an "Ad eundem gradum" to practice in the Province. A. F. Anderson, A. T. Condell and A. A. Allen had also the degree of C.M. conferred upon them. A. A. Nicholls was awarded the University silver medal; A. F. Anderson, the bronze medal, and R. J. Cook, the medal in Sanitary Science. In third year, A. R. Winram obtained the Scholarship of \$80, and L. J. Carter and R. D. Fletcher, \$25. Second year, N. G. Cooper, \$80, and A. M. Campbell, \$50. First year, J. S. Price, \$80, and R. Kippin, \$50.

Sir Wilfrid Laurier on Medical Profession.

Sir Wilfrid Laurier spoke as follows on the third reading of the bill to form a Dominion Medical Council:—"But the laws of the medical profession are the same everywhere. There is no difference in the teaching of medicine and the practice of the profession—and a noble profession it is—between one province and another. Therefore, I think it is conducive to the interest of mankind to have as few as possible of these corporate bodies which have laws against one another. Leaving the technical and theoretical question aside, my hon. friend knows that in this very city of Ottawa there is a rivalry between the practitioner in Hull and the practitioner in Ottawa. The man having a certificate from Ontario would not dare to go to the assistance of a man in Quebec, nor would one having a certificate from Quebec give advice to an unfortunate invalid in Ontario. If argument is needed to justify such a measure as this, I think it can be furnished by the contemplation of such a case—a case that is not merely hypothetical, but a matter of everyday reality. I am moved in this matter by considerations of the expediency of the Bill. But I would not support it without the amendment that has been made providing that the Bill shall come into effect only with the concurrence of the provinces. If even one province does not give its concurrence, then my hon. friend the promoter of the Bill says, the law shall remain inoperative. Under the circumstances, it appears to me that the danger which some of my hon. friends think they see does not really exist."

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EDITORIAL.

THE KING.

IN a few days the Coronation ceremonies will be over. His Majesty King Edward VII. will have been officially vested in all the robes of his august position. No ruler, past or present, ever swayed so mighty a sceptre. His Empire is 12,000,000 square miles in area, contains 400,000,000 souls, and affords trade for ships of a total tonnage of 200,000,000. Notwithstanding the vastness of his Empire, it may be truly said that the King is not unmindful of any portion of his many possessions. It is a matter of much pleasure to know that he takes so much interest in science in general, and medical science in particular. The welfare of all his subjects is his greatest concern. Within the bounds of his Empire, on which the sun never sets, the clash of arms is nowhere heard. *Sic semper sit!* THE CANADA LANCET unites with its many readers in saying, "God Save the King."

ONTARIO MEDICAL COUNCIL, FIFTH YEAR.

THE regulations of the Council of the College of Physicians and Surgeons of Ontario demand that students must spend a period of five years in the study of medical subjects. To this regulation an exception is made in favor of graduates in Arts who have spent two years in the study of physics, chemistry, biology and physiology. These may take their final examination in four years. The regulations also require the fifth year to be devoted to clinical work. Six months of this year may be spent with a registered practitioner of Ontario, or an approved practitioner outside of Ontario. The other six months the student must spend at one or more public hospitals, dispensaries, or laboratories, and must attend at least twenty-five clinical lectures or demonstrations on each of the following, namely, medical cases, surgical cases, obstetrical and gynæcological cases and pathology; and furnish a certificate of six months' hospital attendance. In lieu of the above, a certificate of having acted as house surgeon for one year in a hospital will be accepted.

In making these regulations, the Council was no doubt acting, as it

thought, in the very best interests of the profession. It goes without arguing that the Council acted wisely in requiring a thorough practical training at the hands of the student in medicine before granting him his license to practise. But just here comes in a difficulty. Section 53 of the Ontario Medical Act states: "No person shall be appointed as medical officer, physician or surgeon in any branch of the public service of this Province, or in any hospital or other charitable institution not supported wholly by voluntary contributions, unless he is registered under the provisions of this Act."

A case occurred a short time ago, where a house surgeon had administered an anæsthetic. No fault was found, nor, indeed, could be found, with the manner of administration, yet the coroner and Crown Attorney took the view that house surgeons must be legally qualified practitioners and not fifth year students. This stands seriously in the way of fifth year students securing appoints. Practitioners and hospitals will not care to take such persons as assistants, if there is going to be danger of legal liability for their acts. Further, hospitals may not be willing to incur the cost of housing and boarding fifth year students, if they cannot legally discharge an emergency duty.

Believing, as we do, in the fifth year, it is hoped the Council may find some way whereby these students may be enabled to legally perform the duties usually falling to a house surgeon to perform. There can be no doubt that the intention of sect. 53 is that persons should not hold salaried positions in the provincial asylums, or hospitals, or any branch of the public service, who does not possess a legal qualification to practice. No one would find fault with this. It would never do for the government to appoint unqualified persons to positions of medical and surgical responsibility. It is quite different, however, when the governors of a hospital, or charity, appoint a fifth year student to perform house surgeons' duties, without remuneration, other than board, and under the direction and supervision of the medical staffs and other officers of such institutions. These institutions are conferring a distinct privilege and benefit upon these students, and taking a prominent part in their efficient and practical education. They should not be held liable for so doing. A fifth year student, with his university degree in medicine is quite competent to be a house surgeon. Section 53 should be amended that he may legally hold such positions.

If a medical student is not a graduate in arts he must spend five years in study before he can obtain his license. To take a house-surgeons'hip after obtaining his license would mean that he spends six years in his medical course. Very few of the students can afford to do this.

Those who are licensed and doing house-surgeonship duties are usually graduates in arts, and, as such, are in their fifth year of medical study. Were it not for this, it would be practically impossible for any of the hospitals to secure the services of legally qualified house-surgeons. The student who does not hold a degree in arts is at a distinct disadvantage. The graduate in arts, who obtains his council qualification and M.B. at the end of his fourth year, is of the same academic status as the one who has not an arts degree, but has completed his four years in medical studies, and has obtained his university degree in medicine.

EDITORIAL NOTES.

Alcohol in Colds.

Sir. Lauder Brunton calls attention to the fact that alcohol is bad for one, when taken before he exposes himself to severe cold. If however, one suffers a chill, it is an excellent remedy, as it dilates the surface capillaries and small vessels and thereby relieves the congestion of internal organs.

Hyperemesis Gravidarum.

Dr. Condamin, of Lyon, treats this condition by enemata of artificial serum. He has administered to the patient 12 ounces every two hours by high enema. For eight or ten days the patients are allowed nothing by mouth. If the serum irritates the bowels a few drops of laudanum are added.

Malpractice Suit.

An action was brought against Drs. Hopkins and Clark for damages, at the assizes, held in Cayuga in April last. John Lynburner, the plaintiff, sued the defendants on behalf of the patient, a young girl, who sustained a compound fracture of the arm. It became necessary to perform amputation. Justice Ferguson dismissed the action. We congratulate the doctors in this case in being so completely vindicated. It was shown that they had done everything that could be done for the patient.

Creosotal in Pneumonia.

Carbonate of creosote, or creosotal is highly recommended by Dr. W. H. Thomson, of New York, in *New England Med. Monthly* for May, in the Treatment of labor pneumonia. He gives adults gr. xv every two hours. He remarks that the symptoms of the disease are favorably affected by the drug. This amount may be continued for days. It does seem to irritate the stomach, nor cause depression. Of eighteen cases treated in this way, there was only one death, an alcoholic subject

OBITUARY.

PROF. HANS BUCHNER.

DR. BUCHNER was professor of Hygiene in Munich. He was one of the early investigators in bacteriology, on which subject his writings were numerous and valuable. He died 30th March.

ERVIN ALDEN TUCKER, M.D.

DR. TUCKER died of pneumonia in March last. He was obstetric physician to the Maternity Hospital, Blackwell's Island. He was an active member of a number of societies, and an able contributor to medical literature. He was in his 40th year

JAMES HAYES, M.D.

WE regret to note that Dr. James Hayes, for many years a practising physician in the Town of Simcoe, died suddenly on 1st June. Deceased took an active part in the affairs of the Town. He was for many years chairman of the School Board, and filled many other offices in connection with the working of the town.

E. M. MOORE, M.D., LL.D.

DR. MOORE died in Rochester, March 3rd at the advanced age of 88. Many may remember his visit to the Ontario Medical Association in 1885. On that occasion he spoke on the treatment of puerperal eclampsia, and Colles' fracture. He was a man of great personality. His manner was most cultivated, and his professional learning extensive.

FREDERICK A. CASTLE, M.D.

DR. CASTLE died in New York a short time ago, aged 59 years. When a student he saw active service in the medical cadet corps during the civil war. He also served in the navy. He was an extensive writer in medical journals, and did much editorial work. For a time he lectured on therapeutics at Bellevue. He took a very active interest in the New York Academy of Medicine, and was for a time its treasurer.

WILLIAM MILLER ORD, F.R.C.P.

MANY will regret to learn of the death of Dr. Ord. He was one of the physicians to St. Thomas Hospital; and, as such, not a few Canadians may have met him. His work on myxoedema shall last for

all time. It was so thorough that he left but little for others to add. His studies of the relationship of the thyroid gland to that disease, gave a great impetus to the study of the relationship between ductless glands in general and disease.

THOMAS MORE MADDEN, M.D., M.R.C.P.. Etc.

DR. T. M. MADDEN was one of Dublin's best known medical men. He died at the age of 64, after a lingering illness. Dr. Madden served his apprenticeship under Dr. Cusack, Surgeon-in-Ordinary to the Queen in Ireland. He was an extensive contributor to the medical journals; and wrote a number of books of merit. He had had a number of honorary degrees conferred upon him. He devoted his talents to obstetrics and gynaecology. He was master of the Rotunda for some years; and for many years obstetric physician to the Mater Misericordiae Hospital. He filled many positions of honor in connection with his branch of medicine

ALEXANDER WATSON, M.D.. R.N.

INSPECTOR-GENERAL WATSON, died at Liverpool 17th April. He had seen very much service in the British Navy. He did good service in the Crimea and the Black Sea. He then filled an important post in the Mediterranean fleet. He was present at the capture of the Peiho forts in 1858. Later on he was wounded and taken prisoner in the attempt to capture Tien Tsin. In 1868 he was present when the attempt was made to assassinate the Duke of Edinburgh near Sydney, Australia, and attended him through the illness following the pistol wound. In 1875 he was the medical officer in charge of the Serapis when the Prince of Wales, now King Edward VII., made his visit to India. He was appointed to the charge of Haslar Hospital in 1879. He had a number of medals and clasps of distinction.

PERSONAL.

Dr. J. T. Duncan spent two weeks out west a short time ago.

Dr. Jordan, of Dutton, sustained a fracture in his foot, by a kick from a horse.

Dr. Tye, of Chatham, has gone to Chicago to take a course in surgery.

Dr. G. S. Ryerson, of Toronto, left for England June 1, and will return about the end of July.

Mrs. Hendrie, of Hamilton, has donated to the hospital of that city a nurses home.

Dr. Edgar will leave the Hamilton Hospital on 1st August to engage in private practice.

Dr. Howey, of Owen Sound, left a short time ago for London to take a post-graduate course.

Dr. Wyatt Johnston has been appointed Professor of Hygiene in the Medical Faculty of McGill.

Dr. W. H. P. Hill has returned from England and begun practice at 145 Metcalfe street, Montreal.

Dr. G. F. Bodington, late Medical Superintendent of the British Columbia Asylum for the Insane, died on May 8th.

Dr. A. W. Mayberry, of Toronto, left a short time ago for Europe, to visit the throat and chest hospitals.

Dr. Frederick Winnett, of Toronto, left for England on 30th May, and intends being absent three months.

We regret to learn of the severe illness of Dr. Peter B. Wood, of Hamilton, but hope he will soon be around again.

Dr. Ralph Huffman was united in marriage to Miss Georgina Jamieson, of Napanee, on May 28th. They intend residing in Wisconsin.

Prof. G. P. Girdwood, who held the Chair of Chemistry in the Medical Faculty of McGill, has resigned, after a long and distinguished career.

Dr. H. A. Beatty and Dr. E. W. Spragge, both of Toronto, have been appointed Chief Surgeon and Physician of the Ontario Division of the C. P. R.

A. Douglas McIntosh, M.A., B.Sc., has been appointed senior demonstrator of chemistry, McGill Medical Faculty, in lieu of Dr. Henderson, who has resigned.

Oakville May 6.—Dr. Porter of North Bay, was accidentally drowned to-day while bathing. It is supposed he took cramps, and before assistance reached him he sank.

Dr. T. R. England, Professor of Surgery in Bishops College, Montreal, has been appointed to a chair, Vermont University at Burlington. He will not require to leave Montreal.

The new Medical Council for British Columbia elected Dr. Jones, President; Dr. R. E. Walker, Vice-president; Dr. C. J. Fagan, Registrar; and Dr. W. J. McGuigan, Treasurer.

Dr. and Mrs. Price Brown, of Toronto, spent a few days in Boston and New York. The doctor attended the Laryngological Association in the former city. They returned on June 2nd.

The following doctors passed the British Columbia Medical Council: J. A. Gillespie, R. F. Greer, S. K. Harvie, R. H. Ker, F. P. Patterson, H. P. Rogers, W. H. Sutherland, A. W. Tanner, G. H. Tuthill.

BOOK REVIEWS.

THE NEUROSES OF THE GENITO-URINARY SYSTEM IN THE MALE, WITH STERILITY AND IMPOTENCE.

By Dr. R. Ultzmann, Professor of Genito-Urinary Diseases in the University of Vienna. Second Edition. Revised, with notes and a supplementary article on Nervous Impotence, by the translator, Gardner W. Allen, M. D., Surgeon in the Genito-Urinary Department of the Boston Dispensary; Instructor in Genito-Urinary Surgery in Tuft's Medical College. Illustrated, Pages 198, 12mo. Price, extra cloth, \$1.00, net, delivered. Philadelphia: F. A. Davis Company, Publishers, 1914-16 Cherry Street.

IT is a genuine pleasure to review the classical lectures of Dr. Ultzmann, of Vienna. He was known to be a distinguished Authority on Genito-Urinary diseases. Dr. Allen has done his share well in rendering the original into clear and readable English; and also in adding a chapter on nervous impotence.

MINOR SURGERY AND BANDAGING.

Including the Treatment of Fractures and Dislocations, Amputations, Excisions, Resections, Intestinal Anastomosis, Operations upon Nerves, Tracheotomy, Intubation of the Larynx, etc. By Henry R. Wharton, M.D., Professor of Clinical Surgery in the Woman's Medical College of Pennsylvania, Surgeon to the Presbyterian Hospital, and the Children's Hospital. The Fifth and enlarged edition. Lea Brothers & Co., Philadelphia and New York, 1902. \$3.00.

THE volume before us is a handsome 12mo. one, of 594 pages, and containing 502 engravings. The publishers have given the profession a book in their well-known excellent style of the book-makers art.

The work has now gone through five editions, and has been before the medical profession for some fifteen years. The matter contained in the book is thoroughly up-to-date. The illustrations are numerous and especially good. The work will prove very helpful to students; and, as a ready reference on many points, to practitioners. To all who desire a work on "Minor Surgery" we can cordially recommend Dr. Wharton's manual.

THE PRINCIPLES OF BACTERIOLOGY.

A Practical Manual for Students and Physicians. By A. C. Abbott, M.D., Professor of Hygiene and Physiology in the University of Pennsylvania, Philadelphia. New, Sixth Edition, thoroughly revised in one handsome 12mo. vol. Cloth, \$2.75. Philadelphia and New York: Lea Brothers & Co.

THE sixth edition of Abbott's Principles of Bacteriology, appearing within three years of the fifth and eleven years of the first edition, preserves its original clearness of style and conciseness of arrangement, while presenting some new features of especial interest.

The addition to the Chapter on Tuberculosis of a short treatise on

the pathogenic streptothrices is the more welcome because it is a subject which has not been included in some of the later books on Bacteriology. Recent researches in the pathology and culture of the bacillus dysenteriae and the diplococcus intracellularis meningitis are also given at some length.

The Chapter on Immunity, although it retains its conclusions unaltered, has a fresh interest in the record of later experimental work in that most fascinating field of inquiry.

The make-up of the book in paper, binding, typography, and illustrations, is all that could be desired. We can highly recommend the work.

L A.D.

SAUNDERS' MEDICAL HAND ATLAS.

Atlas and Epitome of Operative Surgery. By Otto Zuckerkandl, Privat Doцент in the University of Vienna. From the Second Revised and Enlarged German Edition. Edited with editions by J. Chalmers Da Costa, M.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Second edition. Thoroughly revised and greatly enlarged. With 40 colored plates, 278 text illustrations and 410 pages of text. Philadelphia and London: W. B. Saunders & Co., 1902. Cloth, \$3.50 net. Canadian agents, J. A. Carveth & Co., Toronto.

THE second edition of this excellent little work has just come to hand. The lithographic plates and text cuts serve to make it of value to the student in operative surgery as well as to the young surgeon who is just beginning his career. In the first fifty pages the author lays down some general rules to be followed in operating and gives a description of the instruments and methods used in modern surgery together with indications for their employment.

The greater portion of the first part of the volume deals with ligation of arteries—amputations and euucleations.

The conditions which call for these procedures are stated in a clear and concise manner. All the more common amputations are described in detail.

In the second part of the book, regional surgery more particularly is dealt with and, as in the first part, the author gives a description of most of the operations that the surgeon will be called upon to perform, together with the conditions under which they should be undertaken.

The book is well printed and the binding strong and durable.

W. D. F.

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THE MANAGEMENT OF THE VARIOUS FORMS OF NASAL OBSTRUCTIONS.

BY PERRY G. GOLDSMITH, M.D., C.M. Belleville.

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BY the term nasal obstruction is meant an interference with the inlet, or outlet, of air through the nose, whether it be intermittent, or continuous. This obstruction may cause little or no inconvenience, if situated on one side only, as the opposite side is frequently proportionately increased in size. The obstruction may be due to causes which are permanent, or to causes which allow periods of normal nasal respiration.

I assume that all, who read this paper, appreciate the importance of continuously unimpeded nasal breathing. I think its importance is too frequently overlooked and many complaints, due to it, are thereby unrelieved.

Obstructions of the nose may be conveniently discussed under three headings.

I. Obstruction in the vestibule.

II. Obstruction between the vestibule and posterior nares.

III. Obstruction due to causes situated in the naso-pharynx.

One might also add a fourth series in which there is a complaint of nasal obstruction, or insufficiency, with no objective reason for such—"fixed idea."

I. OBSTRUCTION SITUATED IN THE VESTIBULE EXAMINED WITHOUT A SPECULUM.

(a) *Congenital smallness of the anterior nares.*

This condition is fortunately quite uncommon; and, when causing marked disturbances, is treated by dilation. It is particularly annoying

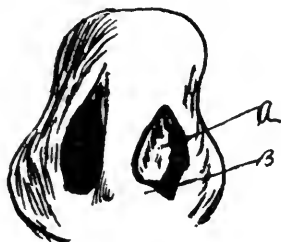


Fig. I.

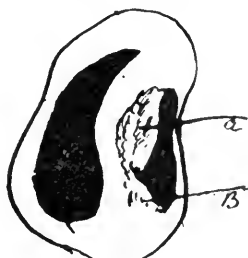


Fig. II.

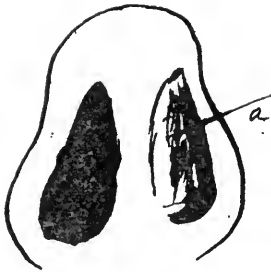


Fig. III.



Fig. IV.

to find this condition in a case of atrophic rhinitis, where the inability to clear the nose thoroughly, hinders the proper treatment of the disease. I have, at present, a case of atrophic rhinitis in a patient, with congenitally small anterior nares, who is unable to satisfactorily carry out treatment, owing to this obstruction.

(b) *Collapse of the Alae Nasi and constriction of the Lumen Vestibuli.*

This condition is readily seen, on inspection of the vestibule, by pushing the tip of the nose backward and slightly upward. If a nasal speculum be used, it should not be inserted far in the vestibule, as it may cover up the pathological condition.

This form of obstruction may be the sole cause of a marked nasal obstruction ; or remain, as a cause of failure, after removal of an intra-nasal, or post-nasal obstruction.

The treatment is simply palliative, and consists in the use of rubber tubing to dilate the passage, and small rubber, or celluloid rings, which may be worn at night to allow of normal respiration.

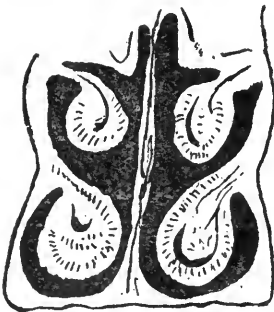


Fig. V.

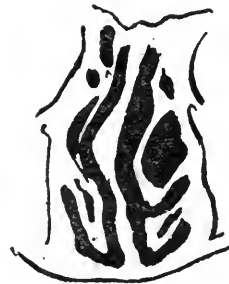


Fig. VI.



Fig. VII.



Fig. VIII.

(c) *Septal Irregularities in the Vestibule.*

(1) Displacement outward of the lower border of the triangular cartilage.

(2) Dislocation outward of the mesial crus with eversion of the triangular cartilage.

(3) Dislocation of the mesial crus in the ventricle.

(4) Combination of (1) & (2).

(5) Vestibular spur usually a marked deflection of anterior end of triangular cartilage due to a blow on the nose.

Fig. I. Displacement of the lower border of the triangular cartilage into the left ventricle.

(a) Cartilage.

(b) Distorted margin of columnna.

Fig. II. Dislocation of the mesial crus with eversion of the triangular cartilage.

(a) Triangular cartilage.

(b) Mesial crus.

Fig. III. Dislocation of the mesial crus in the left ventricle.

(a) Mesial crus.

In each of the foregoing cases of vestibular obstruction the treatment varies with the situation and the amount of obstruction. Generally speaking, the mucous membrane is cut and retracted, while the protruding mass is siezed and removed with scissors and bistoury. The mucous membrane is then trimmed and replaced.

While it seems theoretically desirable to suture the flaps of mucous membrane, it is practically impossible to do so with any attempt at



Fig. IX.



Fig. X.

accuracy ; and the results, from non-suture, appear to be quite as good as when sutures are used.

II. OBSTRUCTION SITUATED BETWEEN THE VESTIBULE AND THE POSTERIOR NARES.

We may divide these obstructions into four classes :—(a) those connected with the septum, or inner wall of the nostril :—(b) those connected with the turbinated bodies and outer wall of the nostril ; (c) those in which both sides are concerned, as synechia ; and (d) cases in which the obstruction is due to a foreign body.

Fig. IV. Normal osseous nasal fossæ.

Fig. V. Hypertrophy of mucous membrane over inferior and middle turbinated bodies.

Fig. VI. Deflected and thickened septum in a contracted osseous fossa.

Fig. VII. Greatly thickened septum with deflection.

Fig. VIII. Deflected septum without thickening.

Fig. IX. Septal spur.

(a) part of saw.

Fig. X. Thickened septum and (a) Anterior synechia.

Before taking up the discussion of each region above mentioned, some remarks regarding the air currents in the nose are necessary. It has always been considered that the inferior meatus was the inspiratory channel of the nose. Mr. C. A. Parker, in the *Journal of Laryngology*, takes the view that the middle meatus is the inspiratory gateway ; and the lower meatus the expiratory channel. The method, employed for ascertaining the direction of the inspiratory air current was to blow lycopodium into the air the patient was breathing, afterwards noting the distribution of the powder in the nose. In the normal nares, the distribution of the powder on the mucous membrane, showed, without the least doubt whatever, that the current of the inspired air passes upward and backward through the middle and superior meatus, entirely missing the inferior meatus. It then sweeps over the vault of the pharynx to about the centre of its oral portion, whence it takes a straight course into the arytenoids. For expiration, note was made of tobacco smoke, exhaled through the nostrils. In expiration, the air, as shown by the smoke, takes a lower course, passing chiefly through the lower meatus. This lycopodium test may be used to satisfy ourselves that the abnormality we see is causing obstruction, and also, according to the deposit of the powder, we may limit our operative measures to the obstructing part alone.

Generally speaking, Mr. Parker says any abnormality, situated or projecting in front of a line drawn from the floor of the nose, within the vestibule, to the anterior end of the middle turbinate, will cause difficulty of inspiration, and should, therefore, be removed. Whether Mr. Parker's

observation will be endorsed by all rhinologists, or not, remains to be seen; but a partial confirmation is frequently seen in practice, when a markedly enlarged inferior turbinate body causes no noticeable obstruction; and, in cases of normal nasal chambers, when the person has been, for some time, working in the dust, it will be noticed that most dust is deposited on the anterior end of middle turbinal. Furthermore, one is sometimes surprised at the apparently small improvement in breathing, ensuing from the removal of a large ridge from the septum, situated low down and well back.

(a) Obstruction Connected with Septum.

(1) There are some rhinologists who insist that all irregularities of the nasal septum should be removed, and the septum left plane. Almost every septum has some irregularity, and to operate, simply because there is a prominence, would bring rhinology into disrepute. The septum may require to be operated upon for the following reasons.

(1) Impediment to nasal respiration (inspiration and expiration).

(2) Interference with nasal drainage.

(3) Cases of eustachian catarrh, kept up by the associated rhinitis, due to septal spurs, etc., or inability to catheterize owing to septal irregularity.

(4) Cases of chronic laryngitis due to or kept up by nasal obstruction.

If the septal irregularity be slight, and no pathological condition is produced by its presence, it had better be left alone. On the other hand, if it produces or tends to keep up, any pathological state, removal should be undertaken. The means to be adopted, in removing the obstruction, depend, for the most part, on the character and location of the obstruction. Those cases, in which there is deflection alone, had best be treated by some such method as Asch's, or forcible straightening, and subsequently using intra-nasal splints. If there be, in association with the deflection, considerable thickening, removal of the projection, with saw or bistoury, is desirable some weeks previous to the correction of the deflection. Frequently one may gain the desired amount of space by removing the anterior half of the inferior turbinated body. The spokeshave is an admirable instrument for removing ridges and cartilaginous spurs. The instrument must, however, be very sharp, and be used very rapidly and firmly. The saw is probably most often used. The situation of the spur, or ridge, makes considerable difference in the question of operative interference. Spurs, situated low down and projecting into the inferior meatus, probably cause no nasal obstruction. They may, however, interfere with nasal drainage, particularly if associated with hypertrophy of the inferior turbinal. In cases of asthma and hay fever, owing to the sudden engorge-

ment of the inferior turbinal pressing on these low situated spurs, they may well be sawn off.

Fig x is a representation of a modified nasal saw I have had made for me by Messrs. Meyers and Meltzer, London. Its advantages are that it will cut close to the septum, up or down, and will neither bend nor jam. Nasal saws have been made of thicker steel, to obviate the fault of jamming and bending; but in so doing, the cutting qualities of the blade have been markedly impaired. This I have obviated by having the blade triangular in section with the apex of the triangle parallel with, but away from the septum, and the cutting edge at one end of the base of the triangle. It therefore matters little how thick the blade is, as the thickness means an increase of distance between the apex of the triangle and the centre of the base, the cutting edge being always the same. This instrument has given every satisfaction at the Central London Throat and Ear Hospital. Frequently, in removing a thickening on the convex side of a deviated septum, a perforation will be made if we take away all that seems to us to be obstructing. It is a somewhat disputed question as to the necessity for causing a perforation. In very neurotic people, the knowledge that everything is not perfectly natural may cause the operator a great deal of unnecessary alarm and blame. Whether the production of the perforation should be conclusive proof of the error of the operator, I am not prepared to say. Suffice it to say, always avoid a perforation if possible; yet, if one has the choice between relief from the obstruction, with a small perforation, and partial relief with no perforation, the amount of relief desirable, and the state of the patient himself, must be the guide. I have read of cases in which the operator minutely describes the reflection of the mucous membrane from the projection, the removal of the exposed bony and cartilaginous portion, and subsequently the stitching of the edges of the mucous membrane together. It reads very nicely, but I venture to say it is one of the most difficult operation in surgery, and one rarely, if ever, *successfully* performed.

Owing to a certain amount of bactericidal properties being possessed by the nasal mucous secretion, it is obviously our duty to preserve, as much of it as possible; but we should not spoil our operation, by trying to preserve a portion of the tissue which, if removed, will in all probability be regenerated. The galvano-cautery has been used very largely, I regret to say, in reducing thickenings of the septum. Possibly in cases where there is considerable thickening, due mostly to increase in the thickness of the mucous membrane, some reduction may be gained by cautiously using the cantery. I think, however, except in very rare instances, the cantery is not indicated in septal work. Ulceration, perforation, and synechia too frequently follow its use.

The best anæsthetic to use is that one with which the operator is most experienced. Those familiar with septal operations, under chloroform or ether, may make a failure of a similar operation, if necessarily performed under gas. Cocaine 20 per cent. made with 1-8000 bi-chloride solution, followed by adrenaline, is generally sufficient. Cocaine made up with a 2 per cent. solution of sodium sulphate, Wingrave says, has a much more penetrating action. In neurotic individuals and where the projection is very large and bony, gas, given by a skilled hand, is preferable. Bases requiring moulding, breaking, and bending of the septum often require ether, or chloroform, in addition to gas. Bromide of ethyl is highly spoken of by some writers, but I have had no experience with it.

Hæmorrhage is occasionally very annoying, owing either to severing the artery of the septum, or is a tendency to bleeding inherent in the individual. Various preparations of the supra renal gland are used to prevent bleeding, as the watery extract, the dry powder, and Hazaline etc; but all are inferior to adrenaline. Not infrequently in the larger septal ridges, or spurs, very serious bleeding comes on five or six days after the operation. Strips of gauze, soaked in adrenaline, usually speedily control it. The after treatment of septal operations varies greatly. Personally, I am very much opposed to the use of plugs, following these operations. In my experience, hæmorrhage, in these cases, is usually slight; and, if troublesome, lasts, at most, an hour—a time advantageously employed in waiting, if it will avoid plugging. If the hæmorrhage is alarming, one may be forced to plug very extensively. In cases where the septum has been broken and a pressure splint is necessary, Moure's is by far the best, not requiring to be changed like Asch's, and, for some reason I cannot explain, causing much less discomfort.

Occasionally it is necessary to use small strips of rubber sheeting to prevent synechia forming. Some mild antiseptic ointment, or oil spray, is desirable after these operations, preventing sepsis and crusts. The patient is better in bed for a few days, and a mixture of Soda Salicyl and bromide of potash may be advantageously employed.

Hypertrophy of the mucous membrane, over the ventricle of the septum, is probably never *per se* a cause of nasal obstruction. It may, however, if well marked, increase an already present insufficiency.

I have omitted any reference to antiseptic preparations in these operations, as no surgeon of modern ideas should operate, without using the same precautions as he does else where. The avoidance of any operation, during an epidemic of influenza, or when the patient is forced to be in an undesirable atmosphere after the operation, is obviously essential to good results.

(b) *Obstruction situated on the outer wall of the nasal passage.*

(1) Bulging of the inner wall of the antrum. I have seen this mentioned, as an actual occurrence. Alone, I cannot conceive of its causing obstruction, but, with a very marked septal deviation and turbinal thickening, a small bulging may be an element in the obstruction. The treatment is obvious.

(2) Middle turbinated body. The amount of importance to be attached to slight enlargements of the anterior ends of this body, depends considerably upon the view one holds of the air currents in the nose. The powder test may be advantageously used. The markedly polypoid condition not infrequently seen in the anterior ends of the middle turbinal, is possibly always associated with empyaema of one, or more, of the ethmoidal cells. Hypertrophy of the inferior lip of the hiatus semilunaris, with some, though slight, enlargement of the anterior end of the middle turbinal, may cause obstruction, in fact well marked hypertrophy of this lip may readily be mistaken for the middle turbinal; but careful use of a probe will satisfy one of the position of the middle meatus, and thereby the turbinated body.

The treatment of obstruction in this region is almost entirely by cutting forceps and cold snare. Grünwald's punch forceps and a stout snare will quite readily remove the anterior end of the middle turbinal. The hiatal lip is best removed by scissors and snare. Rarely is it necessary to use the cautery to the middle turbinal. When used, simple searing of the lower border alone should be done, cauterizing agents, as in the superior regions of the nose, are particularly dangerous. Any accessory sinus disease, which may keep up the turbinal trouble, of course should first be corrected. Furthermore, careful inquiry should be made into the general constitutional condition of the patient, so as to eliminate any systemic affections with vascular atony, gastro-hepatic disorders, gout and rheumatism. Treatment directed to this end, may so relieve the patient that operative measures will not be necessary.

(3) Obstruction due to hypertrophy of the inferior turbinated body. The part played by the inferior turbinal, in nasal obstruction, depends also on the view one takes of the air currents in the nose. It is quite obvious that the anterior end can alone never be an impediment to nasal inspiration if the natural inspiratory channel be the middle meatus. Be that as it may, the discussion in this paper relates to the management, or treatment, of the case. The inferior turbinated body may be divided into three portions, anterior, middle, and posterior. Hypertrophy of the mucous membrane may be confined to one, or involve all parts at the same time; or, the bone itself may be considerably enlarged. The hypertrophy is generally

confined to the anterior and middle portions. Not infrequently, one way find the mucous membrane redundant, and curled under the lower end of of the bone, from which it can be displaced by a probe. If the enlargement be confined to the anterior extremity, a number of deep cautery punctures, sufficient to pin the tissues down, may be all that is required; but in many cases, this has to be repeated so often that the patient becomes annoyed at the constant burning. If the anterior extremity be removed by scissors and snare, a rapid and permanent result is secured. In cases of cystic enlargement, this alone will suffice. If the mucous membrane be very redundant, the cold snare, if the wire can be engaged, give the best and most rapid result. Hypertrophy, confined mostly to the central part, is treated in a similar manner, though the cautery is, from the situation of of the hypertrophy, almost entirely used and linear bearings made. Chromic acid is highly spoken of by McBride, especially if there is much secretion. Care should be taken not to burn the septum, as synechia may cause great annoyance.

Submucous division of the tissues, with an ordinary tenotomy knife, has many advocates. In this method, no loss of surface epithelium occurs. A fine galvano-cautery knife might be similarly used. Submucous injections of chloride of zinc has a number of continental advocates. The posterior hypertrophy may, if large, cause great interference with both inspiration and expiration. The cold snare is most commonly used, assisted by the finger in the naso-pharynx; though a spoke shave may be applied, being withdrawn half an inch, and the mass removed with a snare. Dundas Grant has a special instrument, which, in his hands, amputates the posterior extremity very nicely. These hypertrophies, in young adults, may, in a very marked manner, cause the appearance and symptoms of adenoids. I have one very well marked case of this kind. Occasionally, removal of the mass may be followed by middle ear suppuration, or secondary hæmorrhage. Rest in bed for a few days, and avoidance of excessive exertions for two weeks at least, will guard, as best one can, against a secondary hæmorrhage. The after treatment is similar to that given for septal cases.

While the electric cautery has been of very great assistance to the Rhinologist, there is probably no instrument that has been more abused. There seems to be an idea, among some members of the profession, that every nasal obstruction is caused by the inferior turbinal; and is most surely and quickly cured by the application of some cauterizing agent, such as the cautery, or chromic acid. While these are admirable agents, in properly selected cases, they are not very often required. More harm has been done, by their indiscriminate use, than would have resulted had they never been heard of at all. Various firms send agents

through the country with cautery batteries; and it would seem from the number sold, that the panacea for all nasal troubles is cauterization of almost any swelling seen in the nostril. This sort of practice brings Rhinology into disrepute, to say nothing of the later results in the patient's nose, as septal ulceration, synechia, pharyngitis sicca, etc. Cases of hypertrophic rhinitis are not cured by a few sittings, though, they are much better, after the cautery has been used. It is necessary, as Wishart says, that these patients be seen, at least once a year, so that any return of their trouble may be promptly met. Those cases, however, in which we remove a portion, by snare, or cutting forceps, seldom require anything more. Cases of obstruction, of temporary nocturnal occurrence, are sometimes relieved by supra-renal glands, grs. V, at bedtime, and general constitutional treatment. They may be associated with a tendency to asthma and emphysema, or be reflex, as from the pelvis in females.

One, not infrequently, hears of children having their nose burned for hypertrophy of the inferior turbinal. I cannot see how this is ever justifiable, as we cannot have hypertrophy before development, and the turbinated bodies are not developed until puberty. (Wingrave.) These cases can, in the majority of instances, be entirely relieved by the removal of an apparently insignificant mass of adenoids, situated mostly at the base of the septum, followed by a simple cleansing spray. I have never seen a case of nasal obstruction in a child, where the cautery was indicated. I can imagine nothing more pernicious than stunting the mucous membrane and glands of the turbinated body in a child, by the cautery, or chromic acid. If one must have more space, after trying milder methods, Kyle's plan of making a small incision with a sharp knife would, in my mind, find its most useful application. During the greater part of last year, I had an excellent opportunity of carefully observing the question of nasal obstruction in a large number of children, and I did not see one instance in which a cauterizing agent was used. This occurring, in one of the foremost special hospitals in Europe, is significant.

There are two classes of cases that require a somewhat radical operation on the inferior turbinated body.

(2) *Cases of obstruction due to contracted osseous walls.*

Here our object is to secure space, and we may attack either the septum, or the turbinal. It is in such cases, as well as in cases of marked septal deviation, in which one does not, or is unable to get good results from a septal operation, that complete removal of the inferior turbinated body, by Carmalt Jones' spokeshave, has its place.

(To be continued.)

TREATMENT OF RESULTS OF INFANTILE SPINAL PARALYSIS.

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THE great advance made in surgical methods is nowhere better illustrated than in the treatment of the deformities and disabilities resulting from anterior poliomyelitis. While the prevention of deformities by early application of apparatus has been advocated and practiced for a long time, it is only within recent years that any attempt has been made to rearrange the attachment of active muscles so as to permit of them being used to the greatest mechanical advantage.

The treatment of such deformities and disabilities will be briefly considered under four heads, and illustrated by cases from the notes of the writer. In the consideration of these cases one speaks most largely of paralysis affecting the lower extremity, because the surgeon is consulted so much more frequently for relief of deformity or establishment of increased function, of the lower extremity than of the upper.

I. CASES WHICH MAY BE TREATED BY MECHANICAL SUPPORTS.

In the lower extremity one finds numerous cases with paralysis of all the muscles, sometimes including the adductors and glutei, which produces a flail like or uncontrolled limb.

No surgical procedure seems feasible in such cases. In order to gain a firm base of support one would have to produce ankylosis at hip, knee, and ankle, and the obvious disadvantages of such a course would more than overbalance the advantages. It seems then that this class is best treated with a mechanical support which takes somewhat the form of an artificial limb with a core of bone throughout. The support is preferably fastened to the foot and extends as a side box up each side of the leg, a leather lacing enveloping calf and thigh. The joint at the ankle may be a free joint or a stop joint, set to prevent toe dropping below the right angle. The knee joint should be an automatic lock joint, that locks itself when patient stands, and can be loosened by pressure on a spring, through the clothing, so leg can be flexed when patient sits down. The support may end at the perineum or be continued to a pelvic band, with a free joint at the hip.

This form of support will usually enable one, who has hitherto been obliged to use a pair of crutches, to get about with the assistance of a cane. The mechanical support may be used also in those cases where

surgical treatment offers a hope of increased usefulness of limb without apparatus but where patient objects to submit to operation.

J. S., aet. 23, applied to me with hope of improving function of the limb. He had an acute attack of spinal paralysis at $2\frac{1}{2}$ years of age, resulting in complete paralysis of left lower extremity with final partial restoration of function of the adductors. The psoas was apparently never affected. He could get about only with the aid of a pair of crutches and the leg was more or less uncontrolled so that he thought of having it amputated.

A supporter similar to the one described above was made for him and he was able to swing it forward with the psoas and control it fairly with the adductors and he soon began to walk with two canes. Now, after one year, he can walk for several miles with comparative ease, with assistance of one cane. A second similar case was a young girl fifteen years of age with early infantile paralysis resulting finally in permanent paralysis of all muscles of right lower extremity except adductors, glutei, and hamstrings. The limb was two inches short. She could walk short distances by placing hand of affected side just above the knee thus carrying the weight of the trunk through the arm. This ungainly position had developed a marked rotary lateral curvature of the spine. A two-inch high shoe with support attached was made similar to the one described and with knee joint thus locked she was at once able to stand erect, and can now go up and down stairs and walk long distances with comparatively little limp. She is now taking gymnastic exercises to correct lateral curvature which is rapidly improving.

II. CASES WHERE MECHANICAL SUPPORT MAY BE EMPLOYED ADVANTAGEOUSLY ONLY AFTER TENOTOMY.

The tibialis anticus and posticus muscles are frequently found permanently paralyzed, and the contraction of the unopposed peronei, together with the body weight, produces a valgus deformity of the foot. The continuous rolling over of the foot tends to bring the origin and insertion of the gastrocnemius and soleus closer together, and following the well known law of nature, the tendo Achillis becomes shorter to adapt itself to the new condition. Any reposition or correction of the foot is now opposed, not only by the contracted peronei muscles, but also by the contracted tendo Achillis. The treatment as suggested by this class is division of the tendo Achillis, and possibly the peroneal tendons, and application of a fixation dressing such as plaster of Paris after reposition of the foot.

After two or three weeks the support should be applied and should consist of an outside bar attached to the sole of the boot, with a free

joint or a stop joint, (*i.e.*, a joint made to stop at a right angle but free for dorsal flexion) as the case requires, at the ankle and continued up to a calf band. To the sole of the boot on the inside a T strap should be sewn, in such a way as to allow the horizontal limb of the T to be buckled around the upright bar just above the ankle.

This method gives a good base of support and patients walk very comfortably and securely so long as apparatus is intact and in good working order, but it necessitates the continuous wearing of a support, and is hardly to be recommended, if the next plan can be adopted.

G.R., girl of thirteen years, had paralysis of muscles on the inside of leg. Tenotomy of the tendo Achillis and peroneus brevis with application of a splint as above, was suggested, and so long as T strap held, the position was very good and she was able to walk well, but strap would give way frequently and foot was somewhat neglected, and ultimately deformity recurred and was afterward successfully and permanently corrected by tendon transplanting.

This case is given to show the necessity of constant care where appliances are used, to keep them in order so that the simplest form of apparatus that can be used is always the most successful.

G.E., a similar case, is a child of 5 years, who was slight and not severe on any appliance, had a very useful foot with such a simple splint and wears it without inconvenience.

III. CASES WHERE THE ATTACHMENT OF ACTIVE MUSCLES MAY BE TRANSPOSED SO AS TO ALLOW THEM TO ACT TO BETTER MECHANICAL ADVANTAGE.

The operation for transplanting active tendons into paralyzed ones first performed by Nicolodani, was not taken up so rapidly as its reasonableness warranted. After the lapse of several years it has now become established as a satisfactory plan of treatment in certain cases which would otherwise remain disabled, but where by this means function has been almost completely restored. Such marked success has been attained that patients with severe disability, who were hopelessly crippled, or compelled for life to wear some form of support, are enabled to do without apparatus, or are permitted to substitute simple for more complex and cumbersome appliances.

Tendon transposition is applicable to muscles and tendons in any part of the body, but on account of the less intricate arrangement of tendons, much more useful in the lower extremities.

In the upper extremity paralysis of the supinators of forearm, and consequent extreme pronation can be largely remedied by detaching the insertion of the pronator radii teres from the outer side of the radius,

carrying it through the interosseous membrane, around the back of the radius, and reattaching it near its old point of insertion. This transforms a powerful pronator into a mild supinator, and often succeeds in relieving a severe deformity and renders the arm much more useful.

In the thigh, where the extensor group is so frequently paralyzed, the sartorius remaining active, the sartorius can be divided at or near its insertion, and the cut end fastened into the fascial attachment of the quadriceps to the patella. The development which takes place from use of this muscle is often sufficient to maintain extension of the leg in walking, and thus do away with the necessity of a support above the knee.

In a valgus position, due to paralysis of tibialis anticus and posticus muscles, and unopposed action of the peronei, the deformity may be corrected and the equilibrium of the foot restored by dividing the peroneus longus low down behind the outer malleolus and carrying its proximal end across the extensor tendon and securing it into the tendon of tibialis anticus. This relieves the *pull* on the outside of the foot and gives support to the inside. If by this means the *guying up* of this part of the foot is not sufficiently accomplished, a section may be taken from the tendo Achillis and transplanted into the tibialis posticus.

In cases of paralytic varus, which are much less frequent than the foregoing, the opposite plan may be followed but care should be exercised not to weaken too far the inside of the foot for fear of producing flat foot. For this reason in this form of disability the writer prefers to leave the sound tibialis anticus intact and, after dividing the paralysed peroneal tendon or tendons to attack the distal end of one or both to some sound muscle say the peroneus tertius or extensor longus digitorum.

In cases of paralysis of the calf muscles, the tibialis posticus or peroneus brevis or both may be inserted into the tendo achillis ; but this is the least satisfactory of any of the cases of tendon transposition, as the combined strength of these two muscles does not equal a fourth part of the calf muscles. (This was the original operation of Nicolodani and although it is least useful of any muscle transposition, yet to him is due the suggestion of this plan of treatment.)

A muscle, which is useless or harmful by reason of the position of its attachment, but which is active and capable of development, will gain power as it is transposed so as to be able to work to advantage, so a small muscle like the sartorius may be transplanted into the quadriceps extensor, and while it can never hope to take its place yet it will develop so as to do a share of the work required of such a muscle. On the other hand if these muscles are allowed to remain in useless positions they would just as surely atrophy and degenerate.

M. E., boy 18 years of age with paralysis of thigh muscles except sartorius. The sartorius was transplanted into fascia of quadriceps and after six months the limb was markedly improved. While he could not extend the leg completely with weak extensor yet it was sufficiently strong to keep the leg extended while walking and to prevent the knee *buckling* as it did previously.

J. W., aet. 8. Peroneus longus inserted into paralysed tendon of tibialis anticus and a valgus position of foot corrected, so that with a shoe with slight lift on the inside, patient was able to do without support and to walk with a stable and secure foot.

L. S. boy of 7 years—with marked valgus and severe disability—paralysis of flexor longus hallucis as well as tibialis anticus and posticus. Boot could not be satisfactorily held with outside support and T strap—peroneus longus was inserted into tibialis anticus as in last case and a section of tendo Achillis split off and inserted into a slit in the tendon of flexor longus hallucis. This was a most satisfactory recovery. Boy walks with a secure foot and no valgus—and easily walks a couple of miles to school.

In all these cases five to six weeks should be allowed before any strain is put upon the transplanted tendon for tendons unite slowly and may give way if used earlier. For the same reason catgut should never be used as a suture to fasten one tendon into another as it absorbs too quickly—kangaroo tendon is satisfactory or fine silk may be used.

IV. CASES WHERE SO LITTLE MUSCULAR TISSUE IS LEFT AS TO BE USELESS FOR SUPPORT AND WHERE SUPPORTS ARE NOT ADVISABLE.

One sees cases where a complex support is necessary in order to allow patient to get about, and in active and growing boys one sees these appliances constantly in the repair shop. If patient lives at a distance and repairs cannot be easily made any other means which may allow of simpler appliances being used is readily accepted. In such a case where there is no control of extension at knee and continuous treatment with appliances is not feasible, the knee joint can be excised and a stiff joint secured which will allow patient to get about without apparatus. In some cases of uncontrolled ankle movement *arthrodesis* at the ankle may be employed thus producing ankylosis and a stable foot giving a firm base of support. This in children is not so satisfactory as in adults as much freedom of motion often follows at the astragalo-calcaneus and astragalo-scapoid joint and the foot again becomes insecure.

Whitman describes a very ingenious plan of backward displacement of the foot which may be used in conjunction with arthrodesis, especially in cases of calcaneus deformity. In this class the patient walks on the

astragalus, perched on the upturned end of os-calcis, and there is always a marked degree of insecurity. As in children the simple erosion of the ankle joint is not sufficient to permanently secure the foot as growing bones are not able to resist so great a tendency to recurrence of the instability. Recognizing this, Whitman does what he calls an astragalectomy, arthrodesis, tendon—shortening, and backward displacement of the foot. The astragalus is removed after division of external lateral ligaments, and this allows sufficient freedom of movement of the foot to slip it bodily backward, thus carrying the centre of gravity of the leg further forward toward the centre of the foot.

D. H., eight years of age, marked calcaneus deformity from complete paralysis of the calf-muscles, the os calcis being up-turned with its long axis almost in line with the posterior surface of the flattened calf. Spring supports were tried without avail, as he succeeded in breaking any and all forms of support in a very short time. Two years ago the tendo Achillis was shortened and arthrodesis at the ankle performed. Deformity recurred by reason of great mobility at other tarsal joints. Whitman's operation was performed, and balance of the astragalus, and a portion of the scaphoid removed, after division of the external lateral ligaments. The whole foot was displaced backward so that the tibia came in contact with the anterior end of the os calcis, cuboid, and scaphoid. Wound was closed in the ordinary way, and a fixed dressing applied for eight weeks. The boy has now a secure base of support without deformity, without possibility of recurrence, and can walk long distances without apparatus.

FRACTURES OF THE SHAFT OF THE FEMUR.*

By HADLEY WILLIAMS, M.D., F.R.C.S., Eng., London, Ont.

MR. PRESIDENT AND GENTLEMEN,—The object of this paper is not with the idea of giving information regarding fractures of the thigh, but with the expectation of learning something regarding the best means of ensuring a good result. The medico-legal aspect is also interesting, for cases of non-union, shortening and deformity, with a constant amount of atrophy and loss of working power, sometimes result.

The first great aim is undoubtedly to get "bony union" in a "good position." Any method, no matter how crude, which obtains this result, in a reasonable length of time and with the patient's health unimpaired, is worthy of our support and confidence. These fractures tax our ingenuity, raise up visions of law courts and loss of medical prestige. No wonder we hold the greatest respect for successful results, and nothing but hatred and malice for the fracture itself when we, ourselves, happen to be the unfortunate victims called in consultation.

You will agree that most appliances contain too much mechanism and are utterly useless except to the enthusiastic inventor. Whatever method a surgeon adopts it should be as simple as possible and the one with which he possesses the most experience.

The important local signs are "shortening, eversion of the limb, and deformity." In the upper part of the shaft, the fracture is nearly always oblique; transverse lower down and in children; and quite close to the lower epiphysis, the upper fragment projects in front and forwards, the cases where it passes backward into the popliteal space being of the rarest.

Shortening is the rule. Though muscular contraction plays an important part in preventing end to end apposition of the fragments, yet it is the force which seems to be the actual factor in determining the shortening.

The deformity may be very little but during voluntary movements or when the patient is going under the anæsthetic, a well marked angular projection, in the upper half of the shaft, occurs in front and external, due to the Ileo-Psoas and Glutei muscles rotating it outwards.

Eversion is a characteristic sign due to gravitation of the leg, by being external to the line of support from the centre of the Acetabulum to the foot. In a few cases of impaction, where the fragments are caught in muscle, or where the force is peculiar, the limb may possibly be straight or even inverted.

* Read at the Ontario Medical Association, June 4th and 5th.

The great aims in the treatment are :—

1. To bring the fragments into apposition thereby correcting the deformity and the shortening.
2. To keep the parts in that position by some method which ensures perfect immobility of the limb, and
3. To distribute whatever pressure is applied as evenly as possible to prevent interference with the circulation.

The treatment should be focussed on the one great aim in view namely, "Acquiring bony union without deformity" and with a minimum amount of shortening.

Personally my own experience has been entirely with plaster of Paris except in the sub-trochanteric form. Here the upper fragment is tilted upwards and outwards much more than in fractures lower down.

The great difficulty is in keeping the fragments in a straight line on account of the tilting, so that the leg must be elevated and rotated outwards. For this fracture extension, and the use of the long side splint seems to be the best, for if the pelvis is not fixed at the same time, lateral movements of the ends of the bones, and consequently the chance of delayed union are greater. But the most frequent injury takes place just above the centre of the shaft and those are the causes the surgeon is more frequently called upon to treat. Non-union, overlapping of fragments without shortening and deformity, are the great results to be avoided and on account of the almost universal obliquity of the fracture, their successful treatment is one of the most difficult problems in surgery.

My remarks, like my experience, are entirely confined to plaster of Paris, though condemned and objected to by many surgeons. What are some of the objections?

1. Not at hand when needed, too heavy, softens by discharges, massage cannot be performed, limb shrinks beneath the cast, the joints become stiff, the muscles atrophy.

Allow me to call to your mind :—

1. That strong bony union without deformity and with minimum amount of shortening being the great results to be obtained, atrophy of muscle and stiff joints are really of secondary importance.

2. That atrophy of muscle, to a certain extent, occurs in all cases, due to a physiological sense, by which muscle seems to realize that rest of a part is needed.

3. That, personally, non-union has come under my notice from other methods, but not with plaster, though it does undoubtedly occur.

4. It especially makes the best all-round splint for children; for adults, with thin limbs; and in cases where a recumbent position for a

lengthy period is injurious to the health of the patient, for he may sit up in bed, after removing the pillow, and still preserve the correct angle of the leg with the body.

5. It keeps the parts immobilized (the best guarantee for bony union). My method is briefly this:—

1. To measure the leg between the knee and ankle to make sure there is no old time shortening as in a case sent to the public ward of the hospital for a dislocation of the hip. The patient had received an injury 20 years previously, and the shortening was really due to an old fracture of both bones of the leg.

2. The limb is extended to the full and slightly abducted (chloroform being used if necessary), a thick layer of cotton applied to the groin on the inside; sheet wadding and the plaster bandages from the toes to Poupart's ligament.

3. The plaster is rapidly cut down the whole length in the medium line before hardening takes place, and from the knee to the groin a "V" shaped piece, from one to two inches wide at the upper part, is removed.

4. The surgeon holds the leg in the extended and corrected position until the cast is sufficiently set.

5. Around the limbs are placed several straps with buckles and tightened as required.

Extension is now used by the following method. The usual weight and pulley are arranged and a loop thrown round the ankle outside the plaster, the limb is laid on a pillow with the foot beyond its margin and the very light tendency to eversion corrected by a sand bag.

6. The patient must lie on a firm mattress to prevent pitting and so interfering with the proper extension.

REGARDING THE EXTENSION.

1. There is no irritation to the skin as from adhesive plaster, and no ulceration. The cast fits tightly and snugly equally above and below the knee, and is pulled on by the extension for its whole length, not unduly stretching the leg in one part more than another as with adhesive plaster where the skin is stretched. As the upper part of the thigh is larger than the lower only the limb below the fracture will be extended, and the tendency to angular deformity is thereby prevented. As the leg shrinks, as it inevitable does in every case, the buckles are tightened to suit the size of the limb.

2. 8-10 lbs. will usually suffice for the strong, and 6 lbs. for the less muscular subjects.

As bony deposit begins to take place in three weeks, the extension may be removed a few days later if measurements show less than $\frac{1}{2}$ " shortening, and if necessary the patient may be allowed on crutches since

the plaster and limb together give sufficient extension at that time. The limb should be seen as often as possible and measurements taken corresponding to the requirements at the time of setting the fracture; a mark having been made at the tip of the malleolus to recognize the end of the Tibia. Almost perfect immobility is ensured, and a firm grip of the thigh is always possible. The upper buckle should be wider than the others and placed directly over the great Trochanter.

The average time, to remove the cast is, for adults, 6 weeks, then massage daily and re-apply till the end of the 8th week, when it may be left off entirely. For children less time is required.

As these fractures are nearly always oblique, better to err in too much than too little time. If suppuration has occurred, three or four months' support may be necessary. If the surgeon possesses good luck his patient will walk with a stick in 8 or 9 weeks. In three months the limb is still weak, in four months the patient may be able to work a little.

Out of 17 cases of fracture coming under my own observation within the last two years, of which I have any record, four belonged to the shaft of the Femur and three to the neck. Those of the shaft are as follows:

J. M., age 23, Jockey, junction of the middle and lower $\frac{1}{3}$, shortening at the time of examination 1", splint removed 6 weeks, 2 days. Amount of shortening, $\frac{1}{2}$ ". General result good.

I. K., age 36, labourer; junction of middle and upper $\frac{1}{3}$; shortening at time of injury, 4". In 12 weeks walked with a stick. Total shortening, $\frac{3}{4}$ "; in four months able to work.

T. C., age 6; two places, centre of Femur and Sub Trochanteric, also centre of left humerus (run over by a waggon). Shortening at time of injury, $\frac{3}{4}$ "; splint removed in 6 weeks and 4 days. Total shortening, $\frac{1}{2}$ ".

D. B., age 23, cabdriver, junction of middle and upper third had been treated by extension from knee and short splints for 10 weeks non-union the result with two inches and a half shortening—deformity very marked, encased in plaster Paris firm bony union in 8 weeks. Analysis of my cases give the average shortening, after the plaster of Paris method, as slightly over $\frac{1}{2}$ ", without deformity and good working power.

What are the points of medical-legal interest? The principal ones are:—

1. Non-union.
2. Deformity.
3. Shortening.
4. Loss of working power.
5. Gangrene and Sepsis occasionally.

As oblique fractures are the rule, shortening is, perhaps, unavoidable as no mechanism will prevent some over-lapping of the fragments.

Surgeons who claim none, it always seemed to me must either be favoured with transverse fractures or else stretch their tape a little in sympathy with their imagination, or, in some cases, are a little careless regarding the actual bony points of measurement.

Yet in the last month's edition of *The Railway Surgeon* treatment by Dr. Henniquin's method, of four fractures of the shaft of the Femur, 3 oblique and 1 comminuted, all recovered without shortening. And in the discussion which followed other surgeons claimed equally good results.

Gangrene is rarely seen. It is rather the result of injury than tight bandages. By the plaster method, where the splint is opened up its entire length and the toes are free and movable this cannot occur. If it does, the surgeon should pay the cost of his carelessness.

Some loss of working power is more or less inevitable no matter what splint has been used.

If "non-union" occurs, rubbing the ends together under an anaesthetic and encasing in "plaster" has caused strong bony union in one of my cases. If this fails, the bone should be laid bare and the ends united by some approved method as silver wire, screws, pegs or the like, (I have lately done this in a case of gunshot fracture of the humerus and am now awaiting the result.)

The X-Ray apparatus is useful, especially in connection with joints. The plate should only be interpreted by a surgeon and not by a photographer or lawyer who cannot speak with authority, for epiphyseal lines may easily be mistaken for fractures. Again the X-Ray may bring out overlapping of fragments and give a most vivid picture of apparent "mal-union," sufficient to cast the utmost discredit on the surgeon when, in reality, it will satisfy all the requirements of what may be considered an excellent clinical result.

Massage and early movements in suitable cases, shorten the time of repair and lessen the functional inactivity and atrophy afterwards, yet it seems to me, that they should be used with caution in oblique fractures of the Femur where too much interference may destroy what the surgeon is so anxious to obtain.

The question may be asked, "What constitutes a good result in fractures of the thigh, in the opinion of the expert called to the witness box, in cases of malpractice?"

Leaving out extraordinary conditions, following compound cases with suppuration and the like, one reaches the following conclusions:—

1. That more or less shortening is uniformly the result even in the most favourable cases.

2. That as overlapping of the fragments is nearly always inevitable, one inch constitutes a good result, less than one inch excellent. (My cases show only a slight fraction over half an inch.)

3. That slight limping shows shortening of about an inch due to tilting of the pelvis to the injured side, and is not to be considered unfavourable as a result of oblique fractures.

4. That slight stiffness of the joints and atrophy are inevitable in most cases and are of minor importance when bony union has occurred without deformity.

5. That a laboring man will lose 40 per cent. of his working power to the end of 12 months and 25 per cent. to 30 per cent. for the rest of his life.

6. That slight eversion and deformity, if present with good bony union, and the ability to walk, are inevitable in some cases no matter how carefully treated.

7. That age is a great factor in giving an opinion. Under 18 years expecting a better result than in strong muscular adults.

8. That a final judgment should not be given for 12 months. The surgeon himself should be prepared to state:—

1. That he has used some approved method of extension and counter extension.

2. That side splints or a cast have been used to prevent lateral movement of the fragments.

3. That some method has been adopted to correct eversion and external rotation of the limb

4. That measurements were applied at the time of the injury and repeated at frequent intervals up to the end of the 25th day by tape or steel, and by the correct surgical methods.

5. That he was careful in recognizing and considering the constitutional condition of his patient, as bearing upon the results, during the treatment.

6. And finally "He should give a guarded prognosis at the time of the injury, keeping in mind the tendency to non-union, shortening, deformity and loss of working power, in all oblique fractures of the thigh.

7. Golding Bird says, "In charges of mal-practice, it is not the beauty of the bone scar that should determine the rights of any particular case, but the clinical result produced by the treatment. It is a sharp edged tool, that may inflict a lifelong injury on the surgeon." In other words, it is impossible to accurately approximate bony ends in the deep tissues without more or less irregularity or overlapping, and it should be impressed on the Court by the medical expert, "that X-Ray pictures" of fractures should carry little weight against strong bony union without manifest external deformity.

MALIGNANT OEDEMA OF BOTH HANDS. RECOVERY WITHOUT AMPUTATION DUE TO THE CONSTANT APPLICATION OF ACETOZONE.*

By MURDOCH CHISHOLM, M.D., L. R. C. P. London.

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JOHN Bambick, age 46, gold miner, married, came to the Victoria General Hospital February the 15th, with both hands, right eye and face scorched and lacerated.

The day before patient was trying to force cartridge of frozen dynamite down into a hole in the rock with a stick of wood. An explosion followed, which scorched and lacerated the patient's hands and face. He was carried to a doctor's office, where his wounds were washed, trimmed by removal of hanging shreds, and dressed. In this condition he came to the Hospital. I saw him three days after the accident. His general condition was good. Pulse and temperature slightly above normal. The patient's face, whiskers and eyebrows were scorched, the conjunctiva of the right eye was partially detached, the cornea opaque and vision absent. Both hands were scorched. The little finger of the right hand was blown off close to the first joint. The top of the ring finger was also blown off. The other fingers were severely bruised and peppered with small wounds. The soft parts of the left hand were badly lacerated in several places. The web of the thumb was severed by a wound which extended deeply into the muscles. The muscles of the little finger were similarly lacerated. There was a pungent smell like burnt hair or horn. The wounds on the hands presented a sloughing surface. They were being dressed by the House Surgeon, Dr. Reynolds, with 1 to 6000 Bichloride solution. I decided to continue this treatment and wait for a line of demarcation. On the 20th the smell became so offensive that the House Surgeon resorted to baths of Permanganate of Potash followed by hot lotions of Bichloride frequently repeated.

For five days after this the temperature ranged between 98 and 100 degrees. The offensive odour continued in spite of Permanganate lotions, but the general conditions remained good and the hands presented nothing more than a sloughing surface on the more injured parts. There was very little swelling and not much redness away from the injured areas. On the 24th the temperature went up over the 100 mark in the evening. On the morning of the 25th it was normal. In the evening it went up to 101 and continued to rise until next evening, when it registered 105 with delirium, and restlessness. The following morning on finding the patient's condition so serious I ordered him to the operating room without examining the hands. On being chloroformed and the

* Read before the Nova Scotia Medical Association, June 2nd and 3rd.

wet dressing removed, I realized for the first time that I had to do with a case of malignant oedema. The odour was intense. The hands were swollen, red and oedematous. The oedema extended over the back of the hands up to the wrists. A red streak ascended up to the elbow. My first thought was to amputate, but I had not obtained the patient's consent. I therefore temporized by removing all sloughs, opening all wounds which had healed, scraping them out and freshly incising the hands where the swelling was greatest. On the back of the hand I made two incisions three inches long, exposing a thick layer of white gelatinous material. I also applied pure carbolic acid followed by alcohol, so much recommended by Powell of New York. In addition I soaked the hands well in 1 to 500 bichloride and 1 to 50 carbolic. Finally I wrapped them up in gauze soaked in a saturated solution of acetozone and covered all with oiled silk.

In the evening after the operation temperature fell to 102 degrees, pulse dropped from 135 to 120. Next day at 2 p.m. temperature rose to 103.8, pulse to 127. Patient very restless. Dressings done every three hours, sometimes every two hours. There was an effort made to soak the hands in the antiseptic for half an hour at each dressing, but it was found hard to do more than liberally wash them with it. The patient was too weak to be propped up in bed without which he could not satisfactorily soak his hands. During the night of the 28th the patient slept several hours. His hands were dressed every three hours and his temperature fell to 102.5.

March the 1st, patient feels better, his delirium is less, his tongue is moist, temperature 102, pulse 124. The nurse on going off duty at night wrote: "Patient passed a fairly good day, complained of hands feeling sore after dressings were done. Talked quite a lot at times." The night nurse wrote: "Patient had a very good night, but is feeling weak."

March the 2nd, temperature 100.8, pulse 128 at 9 a.m. At 6 p.m. temperature 102.2, pulse 105. Redness extending up the arms. Ordered ichthyol 3 drs., resorcin $\frac{1}{2}$ dr., lanolin 1 oz., to be applied up the arms and forearms when being dressed. The oedema still confined to the wrists. It ends in a complete circle a little above the wrist joints. The redness is in the line of the lymphatics and has gone up past the elbows about two inches.

March the 4th, left index finger looks black behind and very much swollen. The tip is shrunken as in dry gangrene. Incised freely.

March the 6th, index finger much reduced in size and more natural in color. The swelling and redness of the hands reduced. Granulations springing up along the sides of the white sloughs which formed along the lines of the first incisions over the oedematous swellings. But red-

ness and swelling have crept above the elbows and are within three inches of the axillæ. Temperature 100, pulse 98.

March the 9th, swelling and redness leaving the arm. Forearms still markedly œdamatous. Fluctuation detected above left wrist behind, opened and a large quantity of gangrenous-smelling pus came away. Syringed with Acetozone full strength, driving it under annular ligament out of both incisions on the back of the hands. Temperature 101 to 102.3, pulse 100 to 90. Ointment discontinued.

March the 12th, abscess opened over the second joint of left thumb, also above annular ligament in front. Pus emits a strong gangrenous odour. Left hand is still shiny, red and œdamatous. The same condition extends over the extensors as far as three inches above the elbow. In front the whole arm and part of the forearm shows the skin shriveled and of a pale natural color. The right hand is very little swollen. Amputation wound nearly all healed. Some pus still oozing from over the metatarsal bone of little finger.

March the 15th, left hand and arm not so swollen. Skin not so red. Made an incision over the inner side of the ulna over a loose and puffy soft spot—no pus, but a greenish white layer of somewhat firm consistence presented instead of the gelatinous white of egg material that formed the body of the œdamatous swelling before mentioned. The right index finger is much swollen and discharging pus. It was slit freely in front, well syringed, and packed with gauze. Left forearm in front quite soft and flabby, evidently from absorption of œdema. Right hand and forearm looking well. Smell still very strong from left hand particularly.

March the 23rd, temperature 102. Has been rising since the 20th when it touched normal. Found several abscesses had formed within the last two days. Opened one extending from the middle of the left arm up to the anterior axillary fold. Opened another on ulnar side of forearm two inches below elbow, and another on the radial side three inches above the wrist. Also opened two abscesses on the right forearm, one on the ulnar side, the other in front of the forearm. All these abscesses were confined to the areolar tissues. The pus from them was not so very strong smelling as it had been. They were surrounded by intense erysipelatous looking borders. They were washed out with a saturated solution of acetozone, and what was very striking was the rapidity with which the undermined skin adhered to the parts below, union being quite firm forty-eight hours after they were lanced, leaving only the skin incisions to heal.

March the 28th., temp. normal since the day after the abscesses were lanced, pulse keeps at 90. Patient looks well. Left arm and forearm are of natural color. Subcutaneous abscesses all healed up to the line of

incisions and these covered with healthy granulations. Size of hand very much reduced. Redness and oedema still persist, and some odour. Size of thumb and index finger not much reduced. Right arm natural. Right forearm fairly natural. Redness and swelling persist about stump of little and right finger, also up back of hand along ulnar border. Ring finger very much swollen.

April the 1st, temp. up to 101, pulse 116 for the last twenty-four hours. An abscess eight inches long and two inches wide was formed above the left elbow during the last twenty-four hours. The whole posterior aspect of the arm very red and swollen. Lanced and syringed with acetozone. Right ring finger still red and swollen.

April the 5th, since the 2nd, temp. between 98 to 99. Both arms of normal size, forearms nearly so, hands reduced in size. Incisions all closed but the last and that on right index fingers, both of which are healing well.

April the 8th, temp. 101, gone up since yesterday. Right hand much swollen, red and oedematous. Swelling extends from stump of little finger to the middle of forearm. An abscess has formed over the stump—lanced—characteristic odour obtained. Well syringed with acetozone.

April the 9th, temp. normal and with slight variations so continued till the 21st, when all local applications were discontinued. Some oedema still persisted, but the patient was encouraged to use his hands and expose them to the sun in the hospital ground as much as possible.

Remarks—As far as I know this is the first case of malignant oedema that has ever been saved without amputation. Too often indeed they have succumbed even after amputation. This case was saved by hard fighting, and every now and then when we thought every bacillus killed they would start again with frightful virulence, large abscesses forming in the course of twenty-four to thirty-six hours. It may be asked then why depart from the surgical rule of early amputation in this case?

In answer I have to state that after his temperature went up I did not see his hands till he was under chloroform, ready for what I expected a simple operation. As soon as the bandages were removed I recognized the trouble from the oedema and smell, together with the virulence of the local condition and severity of the general symptoms. But my patient being under chloroform I could not obtain his consent to amputation, so I decided to lessen, as far as possible, the focus of infection for that day, and possibly amputate the next. But next day the fall in temperature, the improved appearance of the hands, the dread of sending a poor laboring man out into the world with two stumps, as well as a

desire to test the antiseptic properties of acetozone, which I found excellent in other cases, saved the patient from a double amputation.

While a student and also in my practice I had met with four cases of malignant œdema. Sir William McCormic amputated a thigh of one of these with what result I do not know, for I did not see the case afterwards. But at the operation he emphasized the gravity of the condition especially in the lower extremities. Another case in the practice of Dr. Fraser, Newfoundland, arose from a slight wound of the thumb. He amputated above the elbow and saved the patient's life. Another was a young child in the practice of a city physician, who would not consent to amputation and death of course promptly occurred. The fourth case was my own. It arose from an abrasion on the leg treated by the application of sticking plaster, and neglected. The exclusion of air gave the bacilli full chance to put in their work, and though the thigh was amputated the stump became infected and death quickly followed. It was not therefore without fear and trembling that I waited in this case. I greatly feared that the patient would have to pay up for my waiting by a high amputation or loss of his life. But seeing the beneficial effects of the antiseptic from day to day, I continued to wait and combat signs as they arose. The bacillus being anærobic and acetozone being a powerful hyperoxide I applied it unsparingly, hoping that enough oxygen would be absorbed through the incision and skin to destroy the bacilli. The dressings extended up to the armpits. The average quantity of lotion daily used was six gallons. At one time the supply ran out and we resorted to bichloride, but the hands, forearms and arms became so inflamed and angry looking that I wired Parke, Davis & Co. at once for more acetozone. It was promptly sent, but fortunately for the patient I found a sample bottle which had been left with Dr. Stuart, and used it with very perceptible benefit.

A word as to diagnosis.—The disease is rare and apt to be overlooked. It has two marked characteristics. The smell and oedema. The smell is very pungent and is compared with burnt horn. The oedema is striking. It results from a free exudation of white jelly-looking material in the areolar tissues. Several times I buried my thumb out of sight when looking in the long axis of the limb. The swelling is not therefore a brawny hardness in this disease, not at least before gangrene of the parts supervene. From the fact that the left index finger in this case had turned black, that its tip shrank irregularly as in dry gangrene, and that all this disappeared on freely incising the finger I believe the rapid onset of gangrene is largely from pressure. Another characteristic of this disease is its frightful virulence and resistance to all previously known remedies. It is generally also accompanied by the formation of

hydrogen which gives a crackling sensation when pressed upon. This was absent in my case.

My treatment was free incisions into the oedematous swellings and the constant application of acetozone which is a most powerful hyperoxide and germicide. I append hereto the pathologist's report.

BACTERIOLOGICAL REPORT.

March 1st. I accompanied Dr. Chisholm to the Hospital and made four cultures directly from the discharge from the sinuses.

These cultures were on blood serum, gelatin slope, agar slope and glucose agar. At the same time I made three cover slip preparations and examined immediately. These were stained with weak carbolfuchsin, alkaline methylene blue and gentian violet respectively.

In all of these I found a staphylococcus streptococcus and a bacillus. The bacillus was comparatively large but I was not able to make out the characters very definitely on account of the other germs which were by far the more numerous.

The cultures were grown anærobical in Buchner tubes. The blood serum and agar ones being incubated and the gelatin kept at room temperature. On the third day I examined the gelatin and one agar culture.

Cover slips made from them showed a bacillus of fairly large size, which was easily stained, had rounded ends and a spore in the middle. The culture gave a very disagreeable odour.

The other cultures continued to grow and formed rounded colonies with a formation of gas. These will be reported on later.

Taking the microscopical and culture characters together I have no hesitation in saying that the bacillus was that of malignant cedema.

(Signed)

A. HALLIDAY,

Provincial Bacteriologist.

Nova Scotia.

CURRENT MEDICAL LITERATURE.

Conducted by A. J. MacKENZIE, B.A., M.B.

PERIPHERAL VENOUS THROMBOSIS IN PNEUMONIA.

THE June number of the *Johns Hopkins Hospital Bulletin* has an article on this subject by W. R. Steiner, M.D., with an abstract report of three cases observed in Johns Hopkins Hospital. The condition is a rare one, only three cases being found in 500 at this hospital, and only thirty-eight in all being found in the literature, yet the blood conditions are such as would lead one to expect thrombosis. In the majority of the cases, twenty-seven out of thirty-two, it occurs during convalescence, and so is rather a sequela than a complication; the lower extremity is always involved, most frequently the left femoral vein, and most frequently somewhere in the left limb. This may be due to the greater length and obliquity of the left common iliac vein.

THE OPEN METHOD OF TREATING SEPTIC ARTHRITIS OF THE KNEE.

IN the British Medical Journal of June 21st, Mr. Walter Whitehead gives the history of a case in which after operation for removal of the internal semi-lunar cartilage acute sepsis set in, and in spite of free drainage and irrigation the patient became rapidly worse until the condition was critical—temperature 103°, rapid pulse, delirium and extreme exhaustion. Amputation at the thigh seemed indicated but the patient was given the option of taking the risk of an open operation and accepted the chance.

The details of the operation were as follows:

- (1) A transverse incision was made through the skin over the centre of the patella.
- (2) The patella was sawn across in a line corresponding with the skin incision.
- (3) The joint was fully flexed and thoroughly opened and the crucial ligament divided.
- (4) All exudations on the surfaces and in all the cavities of the joint were carefully scraped away with a surgical spoon and immediately afterward all the surfaces were freely swabbed with lint saturated with turpentine.
- (5) The whole of the exposed surfaces and every crevice, was gently packed with iodoform gauze.

(6) With the joint well flexed (beyond a right angle), layers of wood—wool were so adjusted by bandages that they not only afforded a compact support to the back of the knee, but also acted in firmly retaining the knee in an acutely flexed position—a position that made it all but impossible for any discharges to accumulate without bringing them in contact with the iodoform gauze packing.

The immediate result of the treatment was seen in the disappearance of pain, subsidence of the temperature and delirium, return of appetite, and sleep. When the dressings were removed in two days the wound was clean and healthy granulation had begun. On the fifteenth day after the operation the leg was straightened and a back-splint applied, and finally when the granulations had restored the natural contour of the knee the surface was skin-grafted. The advantages of this method are the saving of the limbs and perhaps of the life. The essential part is the absolutely free opening and complete cleansing of the cavity.

THE ANATOMY, PHYSIOLOGY AND PATHOLOGY OF THE IMPERFECTLY DESCENDED TESTIS.

THE Hunterian Lectures, delivered before the Royal College of Surgeons, of England, by W. McAdam Eccles on the above subject are reported in several of the English journals for March. Some of the most important points brought out by the lecturer were as follows: The human testis may be arrested at one of several points in the route of its normal descent, viz., within the abdomen, in the inguinal canal, just below the superficial abdominal ring, or in the higher part of the scrotum; these constitute non-descent, partial descent or retention; or, having proceeded as far as the inguinal canal, it may pass into various abnormal positions, constituting abnormal descent or ectopia. The conditions which have been considered to be the causes of the arrest of the human testis may be classified as follows:—

(a) Conditions associated with the mesorchium: (1) The mesorchium too long, the testis would then hang too freely in the abdominal cavity, and would thus be prevented from engaging the ostium of the processus vaginalis; (2) adhesions between the peritoneum forming the mesorchium and the adjacent portions of the serous membrane; (3) abnormal persistence of the plica vascularis.

(b) Conditions associated with the testis and its component parts: (1) The spermatic vessels too short; (2) the vas deferens of insufficient length; (3) the epididymis abnormal in size; (4) fusion of the two testes; (5) certain forms of hermaphroditism.

(c) Conditions associated with the gubernaculum testis: (1) Absence of the upper normal attachments of the gubernaculum; (2) deficiency of its muscular fibres; (3) deficiency or absence of its scrotal attachments.

(d) Conditions associated with the cremaster: (1) Retraction of the testis after it has descended to its usual habitat in the scrotum; (2) want of action of the internal fibres of the cremaster before the testis has reached the inguinal canal.

(e) Conditions associated with the route: (1) Ill development of the inguinal canal; (2) ill development of the superficial abdominal ring; (3) ill development of one half of the scrotum.

(f) Other conditions, such as the wearing of a truss, preventing the onward passage of the organ into the scrotum.

There are probably only two causes of the abnormal descent of the human testis, viz.: It may be drawn into its unusual position by the traction of certain sets of fibres of the gubernaculum testis, or it may be pushed into its abnormal site by an advancing hernia.

In whatever position the testis is found, the cord can practically always be traced through the femoral ring; it takes with it a process of peritoneum termed the processus vaginalis testis, if it remains connected with the general peritoneal cavity; the tunica vaginalis, if it is shut off from the same. The imperfectly descended testis as a rule shows failure in development in size, cellular development or physiological function; generally there is no evidence of spermatogenesis. The bearing of testicular development on the general condition of the person with regard to mental and bodily virility is interesting and important; but nothing can be said authoritatively beyond the statement that there is a connection of some kind, whether casual or merely coincident between this physical condition and those states of mental and physical weakness known as cretinism. One must note, however, that this is only true for those cases where the condition is congenital.

As a rule the accessory genital organs share the mal-development with the testis, chiefly the prostate, the vesiculæ seminales, Cowper's glands and the penis. Not uncommonly there may be associated a tendency to approximate the female model in pelvis, mammae, or even in sexual instinct.

The imperfectly descended testis is liable to inflammation due to (1) traumatism; (2) extension of inflammation from the urethra; (3) secondary acute inflammation in certain cases of parotitis; (4) deposit of the tubercle bacillus; (5) syphilitic infection. Traumatism is a frequent occurrence owing to the exposed position of the organ, from application of a truss, or from torsion of the cord. The effect of such inflammation may be atrophy, hypertrophy, fibrosis, hydrocele, rarely suppuration. Torsion gives extreme pain, congestion, atrophy, or even gangrene.

The imperfectly descended testis may be marked by the development of cysts of the following classes: (1) Cysts formed upon the epididymis; (2) cysts found in testis proper; (3) cysts due to foetal remains; (4) dermoid cysts, teratomata. The new growths affecting the testis in this position are the same as in the ordinary position, viz., sarcoma and carcinoma. Of these, the former, while quite rare, is the more frequent; it is generally of the round-celled variety, and may be preceded by some traumatism. Hydrocele is a common complication, and may be of various forms according to the relation of the processus and the testicle to the surrounding tissues, as inguinal, scrotal, bilocular and trilocular, perineal, and in Scarpa's triangle.

The pathological condition most frequently associated is hernia. Hernia occurs in more than half the cases of imperfectly descended testis, and in many cases it is congenital, showing that it is due to the existing continuity of the peritoneal sac with the processus vaginalis. Five varieties are described, viz.: Inguinal hernia, bubonocoele, interstitial, cruro-scrotal, and superficial perineal. The first is the most frequent. The names of these indicate sufficiently their respective positions.

REPORT OF THE PASTEUR INSTITUTE OF NEW YORK,
1900 AND 1901.

THE report of the Antirabic vaccinations at the New York Pasteur Institute for 1900 and 1901 is given in the *Medical News*, April 5th, 1902, and is a most interesting and valuable contribution to our knowledge on this subject.

On the whole 241 persons were treated, with one death, a mortality of 0.41 per cent. There were also two deaths within fifteen days after the treatment which are not included in the statistics. The reason for this is that from experiments on dogs it is concluded that the nervous centres of persons who die of rabies within fifteen days following the end of the treatment have been affected by the rabic virus before the treatment could have exerted its full effects.

In 50 out of 88 cases the diagnosis of rabies in dogs was made by microscopical examination of the cerebro-spinal ganglia of the animals, supplemented by experimental inoculation; in all but one the characteristic histological lesions of rabies were present, and in this case the result of inoculation was also negative. With regard to the interpretation of the histological examination the rule is as follows: When the result is positive—which is the rule when the dog dies of the disease—it can be stated positively that the animal was rabid; but when the result is nega-

tive—which is frequent when the dog is killed as soon as it has bitten—one has no right to affirm that the animal was not rabid; the diagnosis remains uncertain, and the strict duty of the veterinary surgeon is, now as well as in the past, to advise the bitten person to go to the Pasteur Institute.

Among the clinical symptoms upon which we usually establish the diagnosis of rabies, as in the cases referred to in the article, are the following:—

1. Change in the disposition of the dog.
2. Unusual manifestation of attachment to its master.
3. Disappearance from its home for from several hours to two days.
4. Change in the bark—or total absence of barking even on provocation.
5. Lack of appetite, difficulty in chewing and swallowing solid food.
6. Excitement and hallucinations; animal snaps at imaginary objects, may attack its own master. Excitement caused by the sight of another dog. (This stage may be absent in the dumb form of the disease.)
7. Animal eats its own bedding, tears cushions, carpets, etc.
8. Inability to eat; animal takes food in mouth, but it drops out after one or two attempts at swallowing; drinking, however, is little or not interfered with and there is no hydrophobia.
9. Unsteady gait, which shows the beginning of paralysis of hind legs. Dilated pupils.
10. Later; paralysis of lower jaw, general paralysis.

The treatment which is practically that adopted at the Paris Institute, consists in subcutaneous and intra-venous injections of emulsion of the cord. In ordinary cases coming for treatment within one week after the accident the treatment is given during eighteen days, in cases of bites on the head or if more than two weeks have elapsed the treatment is given for twenty-three days or more.

A valuable outline of the course to be followed when a person has been bitten by a dog or other animal susceptible to rabies is given as follows:

The first thing to be done, then, when a person has been bitten by a dog is to remember that the animal is our “star witness,” and that without it we have no evidence. Naturally, the evidence must not be destroyed and the dog should not be killed. If possible, it should be kept under observation for a few days. Roux demonstrated several years ago that the saliva of a rabid animal may be virulent three days before the appearance of any symptoms of the disease. But the inexperienced observer may not notice these first symptoms and we follow the rule established here by our regretted Dr. Gibier: We recommend that the dog be kept in confinement and carefully observed *for at least one week*. If the animal has already shown signs of disease, our advice is the same; it must not be killed, for, as we have mentioned in our “Remarks on

Diagnosis," the lesions which allow a diagnosis to be made within twenty-four hours may not be present in the early part of the disease. As soon as the animal dies, its head and neck should be cut off (as near the shoulders as possible) and sent to the nearest laboratory to have the crucial tests made. If this be impossible, the brain and the medulla should be carefully taken out and pieces of each put into two clean bottles, one containing 95 per cent. alcohol, the other pure glycerin. The material will then be in good condition for examination and inoculation after several days. The diagnosis should be made as quickly as possible, as the treatment must always be given early. In cases of bites on the head, the dog may be killed as soon as it shows well-marked symptoms of paralysis and the brain and medulla extracted; several hours and from two to three days in dumb rabies may thus be saved—a matter of great importance.

Of course, when the dog has disappeared, one must rely on clinical symptoms; inquiry should be made as to its whereabouts, its behaviour; whether it had been bitten by another animal some time before, whether cases of rabies have been reported in the vicinity, etc.

As to the patient's wounds, little need be said. However, we must express our opinion as regards cauterization. *It should never be relied upon.* This does not mean that we advise against cauterizing a wound inflicted by a rabid dog; indeed, it has been shown that *immediate* cauterization with the cautery (actual or thermo-) or with fuming nitric acid, will often destroy all the virus inoculated; if it does not afford an absolute safeguard, it will at least tend to increase the length of the period of incubation, and this is important if the patient cannot reach an Institute within a short time. But if the wound cannot be treated in this way within one hour, it is much better to treat it antiseptically, as any other infected wound; an application of tincture of iodine has been recommended by Babes; the wound should be washed with a solution of carbolic acid to which a little 95-per-cent. alcohol is added, or with any other good antiseptic solution, and either a wet or a dry dressing applied, according to the size and nature of the wounds. Nitrate of silver is worthless in these cases. In any case the person should be urged to undergo the preventive treatment if this is thought advisable.

As to the danger from the treatment, it may be said that the antirabic treatment may cause slight nervous disturbances in neurasthenic and hysterical persons; these disturbances, however, have never been serious and they are extremely rare.

PROVINCE OF QUEBEC NEWS.

Conducted by MALCOLM MACKAY, B.A., M.D., Montreal.

The convention of the American Medico-Psychological Association held in Montreal during the latter part of June proved to be the most successful in the history of the society, both in regard to attendance, and, to the number and variety of the entertainments provided.

On the opening day, June 17th, the delegates were welcomed by Lieut.-Governor Jette on behalf of the citizens of the Province of Quebec and by Mayor Cochrane on behalf of the citizens of Montreal. An address of welcome was then read by Dr. Armstrong the president of the Montreal Medico-Chirurgical Society. Several items of regular business were then transacted, after which the President, Dr. R. J. Preston, of Marion, Va., delivered the annual presidential address. Dr. Preston gave an exhaustive statistical record of the rise and progress of insane asylums in the United States and Canada, together with an able review of the efforts made at various times in the world's history to alleviate the condition of the insane. The past century, he said, had been one of wonderful advancement and not the least notable feature of that advancement had been the progress made in methods of treating the insane.

At the evening session, Dr. Adolf Meyer read an exceedingly interesting and practical paper entitled: 'A few important terminal diseases of Melancholia.' The paper was based on the post-mortem findings in thirty-six cases of melancholia. After excluding those who died of lobar pneumonia, suicides, etc., he took up some fourteen cases of broncho-pneumonia, four of infarct of the lung, two of perirectal abscess, one of suffocation, the text of the paper being devoted to a discussion of central neuritis.

Many of the cases of broncho-pneumonia could be directly traced to forced feeding, and Dr. Myers considered it of the utmost importance that great care should be taken in administering food by the tube. In similar cases rectal feeding was often necessary, and here too he thought that more than ordinary care was necessary, on account of the well known vulnerability of the tissues in such conditions. The two cases of perirectal abscess which he reported having led to gangrene and death.

In the cases of pulmonary infarct, all died comparatively suddenly, the majority were walking about at the time of the onset, and, in these cases, death might have been averted by rest in bed; but in one case the patient was lying perfectly still in bed when death suddenly occurred. The case of suffocation was interesting, because the patient in question had been in good bodily health until a short time before death, when he had an attack of dysentery. This weakened him considerably, and he

began to show signs of palpitation and irregularity of the heart. One morning he rose to go to the lavatory and was found there shortly afterwards, doubled up on the floor, quite dead. The post-mortem revealed ecchymotic spots about the pleura-pericardium, and it was concluded that the patient died from suffocation, following a syncopal attack.

In the case of central neuritis, we have an interesting addition to the cases previously reported by Turner and Meyer; and the conclusions, already arrived at, are again confirmed by the post mortem findings. Dr. Meyer considers that the symptom-complex of this terminal affection is very characteristic. First, the patient becomes weaker, then muscular twitchings with rigidity supervenes, athetotic movements of the fingers are present, reflexes are usually increased, and the face is drawn into a *risus sardonius*. The onset of these symptoms is, as a rule, a swift precursor of death, although, in some cases, several attacks may be withstood before death steps in. No gross changes can be made out in the nervous system after death, but microscopically the characteristic lesions are found, more especially in the medullary centres and mid brain, although they are also found to some extent in the grey matter of the cord, and least of all in the spinal ganglia.

The paper by Rev. James Buckley, D.D., LL.D., which was read at the morning session on Wednesday, proved to be one of great interest, and a vote of thanks was passed to the author, together with the expression of a hope that the address would be published and widely distributed. "The possible influence of rational conversation on the insane," was the title, and Dr. Buckley gave instances, from his own experience, showing that the mentally afflicted could, in almost every case, be benefited by rational conversation.

Litigious insanity was discussed by Dr. Lane, the paper being of interest chiefly on account of his remarks upon the difference between legal and medical insanity, and the consequent difficulty in reconciling judgments with medical expert evidence.

At the evening meeting, Dr. Wesley Mills read the annual address. The subject was a consideration of reflexes versus voluntary acts in man and the lower animals. Dr. Mills emphasized the fact that a great many actions, usually considered as voluntary, were in reality reflexes, not intentional but instinctive. He also touched upon recent discoveries in the histology of the nervous system. The lecture was illustrated by living specimens and lime-light views.

On Thursday morning Dr. Kidder, in his paper on "Care of the Insane in Brazil," gave a good account of the asylums in that country. He considered that they were, on the whole, as far advanced as in North America, although, in a few instances, they were distinctly below the

average. He thought that excessive coffee drinking, and far-reaching immorality, were the direct and indirect causes of most of the insanity in Brazil. Dr. Richardson followed with a paper on "Women Nurses in Hospitals for the Insane." There was a description of what had been done in the training of nurses at Washington, a training which was thorough and which enabled the nurse to understand, in great measure, how best to supplement the medical care which was given by the doctors of the institution. Dr. Richardson said that the female nurses had a more tranquilizing effect upon the patients than men. When women went about among the male patients there was less noise, there was less swearing, there was a feeling of respect, and experience proved that no insult had ever been addressed to women nurses. Orderlies, for the heavy work, could not of course be dispensed with, but the men regarded the work as temporary employment and it was not a regular profession to which they would give their lives. In so far as women nurses had been tried among male patients, the experiment had proved a great success. It might be said to be only in its infancy, but the results had been so satisfactory that he could heartily recommend its extension.

At the afternoon meeting, considerable discussion followed the paper by Dr. Hattie on "Education in the Development of Self control," and the opinion of the majority appeared to be that the multiplicity of subjects taught in schools tended to decrease the pupil's power of concentration, and hence his self-control.

The last session was held on Friday morning, when two papers of a similar nature were read. These were "Sanitation in Asylums for the Insane with Special Reference to Tuberculosis," by Dr. McCallum, and "Tent Life for the Tuberculous Insane," by Dr. Haveland, of the Manhattan State Hospital.

The first paper advocated isolation in small detached cottages as the only means of lessening the ravages of consumption, which was so prevalent among the insane. The second paper showed the beneficial effects of tent life upon consumptive patients, and the author thought that the experiment was worthy of trial on a large scale. It could be maintained, even in cold weather, with proper heating appliances. The patients gained in flesh, they looked better, and the fresh air and good food had effects which made for recovery in those in whom the disease was incipient, and for the benefit of those who were too far gone to hope for ultimate recovery.

Before the conclusion of the meeting Dr. Blumer, the president elect, was introduced by the retiring president, and the announcement was made that the next convention would be held at Providence, R.I., in May, 1903.

The last meeting of the Montreal Medical Society, for the present session, was held on June 27th, with a very full attendance. Drs. Armstrong and McTaggart showed a specimen of inflammatory anastomosis between gall-bladder and duodenum. This was caused by pressure from a large gallstone which was removed from the intestine. At the operation the abdomen was found to contain a quantity of faecal matter, which had escaped from a perforation in the intestine, caused by a pressure slough from the gallstone, although the stone itself was found several inches lower down.

Dr. Lafleur then read a report of two cases of sporadic typhus fever. The first case was a female, aet. 31, who was removed from very unhygienic surroundings to the Montreal General Hospital, on March 25th, 1902. She had been seized twelve days before, with chills, vomiting and diarrhoea. On examination, she was found to be a well nourished woman, with a very apathetic expression. Temp. $100\frac{2}{3}$, respirations 44, pulse 144—small and low tension. The lungs and heart were normal, there was no Widal reaction, although there was a leukocytosis of 15,000. Over the body there was a fine punctate rash, rather darker than the rose spots of typhoid. In addition there were several fine petechiae on the hips, and the whole trunk was covered with a mottled, purple erythema. The urine contained albumin and casts. By March 29th, the patient had improved considerably, and, from the 15th to 18th day of disease, the temperature fell by rapid lysis, the rash faded, and the patient made a good recovery.

The second case was the husband of the first patient, and he presented a very similar picture, the disease following the same course. The rash was more extensive and the purpuric spots larger, but the main features,—rapid respiration, high temperature, weak rapid pulse, delirium, and albuminuria, were present.

On the 15th day, the temperature fell, by crisis, and the patient rapidly became convalescent.

The differential diagnosis was fully discussed, and the rarity of the disease, under present conditions, commented on, the last case reported in Montreal, having occurred in 1877.

After Dr. Deeks had given a summary of a case of Addison's disease with improvement under supra-renal extract, Dr. Blackader read a very complete and useful paper on recent advances in infant feeding. This was followed by an animated discussion on the relative merits of modified milk, modified whey, and the various prepared foods.

During the course of the meeting, when all the members had assembled, Sir William Hingston read a memorial notice, an eloquent tribute to the worth and character of the late Dr. Wyatt Johnston. It was unanimously resolved to have it placed on record and a copy sent to the wife of the deceased.

MARITIME TOPICS AND NEWS.

Conducted by W. D. FORREST, M.D., Can., L.R. C.P. Lond., M, R. C. S. Eng., B.Sc. Halifax.

NOVA SCOTIA MEDICAL ASSOCIATION.

THE thirty-fourth annual meeting of the Nova Scotia Medical Association was held in the United Church Hall, New Glasgow, on July 2nd and 3rd.

The meeting was in many ways the most successful one in the history of the association. It was called to order by the president, Dr. John W. Mackay of New Glasgow, at 2 p.m., and after hearing the reports of the several committees, the meeting proceeded to appoint its representatives on the Provincial Medical Board. The result of the ballot was the appointment of the following gentlemen :—Dr. Wm. Tobin, Halifax ; Dr. D. A. Campbell, Halifax ; Dr. John Stewart, Halifax ; Dr. M. A. B. Smith, Dartmouth ; Dr. H. K. MacDonald, Lunenburg, and Dr. D. McIntosh, Pugwash. The new members of the Board are Drs. MacDonald and McIntosh, who take the places made vacant by the retirement of Drs. Black and Webster.

The president then called upon Dr. H. P. Clay of Pugwash, who read a carefully prepared paper "On Several Inconsistencies." Dr. Clay referred to injustices frequently done the profession by the public, and particularly by large corporations. He cited several cases of his own and of other practitioners who had been shamefully treated in the way of remuneration for services rendered. Reference was also made to the different ways in which medical men are imposed upon. After a discussion by several gentlemen a committee was appointed to look into the matter and report at the next meeting.

Dr. H. MacKay's paper on "Insomnia" was listened to with interest by the meeting. It was full of original and scientific suggestions as to the treatment of the condition.

The evening session opened with address of welcome on behalf of the citizens and town council by Adam C. Bell, Esq., Picton's representative in the Dominion Parliament. Mr. Bell is an excellent platform speaker and his remarks were timely and well suited to the occasion. Fitting reference was made to the recent illness of our sovereign King Edward VII, and the hope expressed that his recovery would be rapid and uninterrupted. Dr. Chisholm of Halifax replied on behalf of the visitors.

Dr. J. W. Mackay then read the presidential address. He referred feelingly to the death of their late secretary, Dr. W. S. Muir, of Truro. To Dr. Muir much of the success of the society was due. Almost the last thing he was heard to say as he lay on his dying bed was to express regret that he had been unable to complete the programme for this meeting, but that he hoped it would be the most successful in the history of the association. Although he was not spared to be present at it, his wish was fulfilled. It was the largest attendance since its formation—fifty-seven members registering—the next largest being at the Amherst meeting, where forty-eight members were present. Dr. Mackay then gave a history of the Aberdeen Hospital since its construction. He advocated the establishment of college hospitals throughout the province and spoke sympathetically with the movement to build a hospital in Truro as a memorial to the late Dr. Muir.

A discussion on vaccination then took place but nothing new was added to the literature on the subject. Dr. A. P. Reid gave a history of vaccination and Dr. Moore, of Kentville, referred to the recent outbreak in his part of the province.

Thursday morning the session opened with "An Address on Surgery" by Prof. G. E. Armstrong, of Montreal. This paper took the form of a retrospect. Reference was made to the use of the X rays in surgery. In cases of fractures and particularly in cases of dislocations in which fractures may be associated it has proved invaluable to the surgeon.

The open method of treating fractures was also discussed at length. In certain cases where in spite of every attempt the fragments cannot be brought into apposition or where for some reason the soft tissues get between the ends of the bones and prevent them being brought together—the surgeon is justified in exposing the seat of fracture and adopting means to fix the fragments in position.

Suturing of arteries and the opening of the abdomen for exploratory purposes were also referred to.

Then followed some remarks on surgery of the cranium.

At the afternoon session Dr. Finlay gave the address on "Medicine." He dealt with modern methods of diagnosis more particularly and referred especially to the use of tuberculin for diagnostic purposes.

A most excellent paper and certainly one of the best read at the meeting was that by Dr. W. H. Hattie, Supt. of the Nova Scotia Hospital, on "Mental Disturbances During the Puerperium." It was carefully prepared, scholarly and abounded with practical suggestions throughout.

In giving an account of this meeting we must not forget the social part of the programme, which on these occasions is by no means the most unimportant.

On Wednesday afternoon the members were invited to a garden party on the grounds of Mr. P. A. MacGregor. Here the youth and beauty of New Glasgow were assembled and everything possible was done to make the visitors enjoy themselves.

Thursday afternoon some of the members visited the steel works while others were driven to Fraser's Mountain, from the top of which an excellent view is obtained of the whole county. Northumberland Strait with Prince Edward Island on the other side could be seen off in the distance. The day was fine and clear and the scenery was much enjoyed by those who took in this part of the programme. In the evening a banquet was given by the Pictou County Association which was largely attended.

The next meeting of the Society takes place next July in Antigonish.

The officers appointed for the ensuing year are as follows : President, J. J. Cameron, M.D., Antigonish ; 1st Vice-President, W. G. Putnam, M.B., Yarmouth ; 2nd Vice-President, M. Chisholm, M. D., Halifax, and Secretary-Treasurer, Huntley McDonald, Antigonish.

PERSONAL.

William D. Currie, M.D., (McGill, 1902), intends practising his profession in Lunenburg, N. S.

Dr. F. U. Anderson, of Halifax, who has been for the last three weeks visiting Montreal, has returned.

Dr. E. B. Roach, for the past year a house surgeon at the Victoria General Hospital, has opened up an office in Tatamagouche, N. S.

John Mackenzie, M.D., (Dal. 1902), has entered into partnership with his father, Dr. Mackenzie, of Pictou, N.S.

Dr. E. D. Roche, of Tatamagouche, who has been indisposed for some time, is improving, but still unable to attend to his work.

Louis P. Farrell, M.D., (Dalhousie '99), M.R.C.S. Eng., of Halifax, Nova Scotia, is at present in the Indian Medical Service. He is stationed at Bombay. Dr. Farrell is a son of the late Dr. E. D. Farrell, of Halifax.

Dr. W. W. Chipman, of Montreal, recently visited Nova Scotia. While in the province Dr. Chipman took advantage of the trout season and spent several days at the lakes in the vicinity of Halifax.

Dr. John F. Black, of Halifax who for the past six months has been visiting places in Southern Europe, is at present in Vienna. Dr. Black, after spending some time about the hospitals of this famous old city, leaves for Britain, where he purposes putting in the winter

Major G. C. Jones of the Canadian Field Hospital, at present stationed in South Africa, leaves Cape Town shortly for London. It is understood that Dr. Jones has accepted a commission in the Medical Department of the Imperial army.

During the month of June, medical men in the maritime provinces figured rather prominently in the marriage columns of the daily papers. On June 2nd, Dr. W. H. Eager, of Barton, Digby County, was married to Miss Constance Hill, late of the Victoria General Hospital nursing staff. On June 3rd, Dr. George Gandier, of Picton, was married to Miss Annie Dickson, of St. John. On June 11th., Dr. Hector Mackay, of New Glasgow, was married to Miss Christina Millar, of St. John, late of the Aberdeen Hospital nursing staff. On June 11th, the marriage of Dr. L. W. Branie, of Hackett's Cove, to Miss Jessie Graham, of Bear River, took place. Dr. T. M. O'Sullivan, of Glace Bay, was married, on June 12th, to Miss Cassie MacLean, of Antigonish. On June 29th, Dr. L. J. O'Shaughnessy, of Halifax, was married to Miss Louise Gladwin of Windsor.

CLINICAL OBSERVATION OF A CASE OF TYPHOID FEVER.

THE "L'Union Médicale du Canada" (May number) has a report by Dr. J. A. Le Sage of an interesting and instructive case of typhoid fever, which is a forcible reminder of the necessity of making use of all means of diagnosis in obscure cases.

The patient was a servant girl, young and of unimportant history. She was taken with vomiting, which prevented her working. A doctor was called, gave an emetic, and she was soon better. Three days afterwards she had another attack, and the same treatment was adopted. Some days after she complained of feebleness, slight diarrhoea, but no attention was paid to this; it was called hysteria, this idea was heightened by the fact of some nightly delirium. An examination made showed blood on the genitals, and the conclusion was arrived at that there had been criminal abortion. She was sent to the Nôtre Dame Hospital, where she fell into a coma. Examination showed accelerated respiration and pulse, insensitive cornea, traces of blood at nose, mouth and other openings, the abdomen swollen and tender, the bladder distended with urine, which on examination was laden with albumen. She died three hours after admission. The Widal reaction was positive. The post-mortem gave all the pathologic evidences of typhoid attended by hæmorrhage. The diagnosis was made, but too late. The mistake of the first attendant, while indefensible, might often be made; the lesson the writer enforces is that in every case all the resources of clinical and laboratory methods should be called in requisition.

DISEASES OF THE EYE, EAR, NOSE, AND THROAT.

Conducted by PERRY G. GOLDSMITH, M.D., Belleville,
Fellow British Laryngological Rhinological, and Otological Association.

EMPHYEMA OF THE MAXILLARY AUTRUM IN AN INFANT NINE MONTHS OLD.

STEWART Shirlow, in the June Journal of Laryngology gives notes on this case. A swelling of two or three days duration was present on the left cheek, associated with a free discharge of pus from the corresponding nostril. A fistulous track was discovered in the alveolar border of the upper jaw, leading into the autrum in which was found the perfect crown of a molar tooth. The opening was enlarged and the crown removed.

The antiseptic lotions, used in the alveolar opening, came away freely from the nose. The case is cited for its rarity, and to set at rest any doubts as to the occurrence of this disease in infants.

REPORT OF AN EXAMINATION OF THE EARS, NOSE, AND THROAT OF 1,000 SCHOOL CHILDREN.

IN the June number of the *Journal of Laryngology*, Mr. Arthur Cheatte, F.R.C.S., gives the results of some eight months work in examining the ears, nose and throats of 1,000 school children between the ages of 3 and 16 years, from one of the poorest districts of London. The object of the examination was, in the investigator's own words, "to ascertain what proportion of children suffer from diseases of the ear, in order that attention might, if necessary, be drawn to the subject, and that as so many of the dangers of life and hearing have their origin in childhood, means might be taken to guard against them during that period of life." Simple tests for hearing were used in all cases, the whispered voice being principally employed. The tuning forks' tests were taken when necessary, and the politzer air bag was used to strengthen the diagnosis.

The nose and throat were examined in all; while, in those whose ears were affected, the condition of the naso-pharynx was invariably investigated. The importance of a thorough examination of the naso-pharynx is shown in the tables accompanying the paper, wherein it is stated that, out of the 1,000 cases examined, there were 247 cases of post suppurative middle ear trouble, in which either enlarged tonsils, or ade-

noids, were present; generally, however, both existed. There were 166 cases of depressed membrani tympani; and, of these, the naso-pharynx was affected by enlarged tonsils, or adenoids, in 141 instances. Nothing could show more clearly the relationship that exists between the ventilation of the tympanum and the condition of the naso-pharynx.

Summing up it was found that

(1) The ears were normal in	432
(2) The external ear was affected in	49
(3) The middle ear in	518
(4) The internal ear in	1
	<hr/>
	1,000

The hearing, as tested by whispered voice at 18 feet, was deficient in 520 cases, in one or both ears. A very important point is that this was not noticed by the teacher in many cases. A few cases apparently had recovered normal hearing, though, on examination, evidence of old suppuration were found.

Foreign bodies were found in the ear in 18 cases; haemorrhage of the membrani tympani, probably due to a box on the ear administered a short time previously, in one case; and a rhinolith in one case. Congenital perforation in Sharpnel's membrane was found in eight cases. Very properly a query is placed before the word congenital, for though a perforation was present, and no history of discharge could be obtained, the probability of these cases being past suppurative middle ear trouble must be seriously considered. No mention is made of the use of Seigle's speculum, which might have been able to suck some pus from the tympanum. Of the 8 cases, it is interesting to note that enlarged tonsils and adenoids existed in 6.

88 children were found to be suffering from chronic suppuration, in one or both ears. Not only does this suppurative process cause deterioration of hearing now but will probably later on in life, even if cured at once; and the child is exposed to all the dangerous sequelae of suppurative middle ear catarrh, viz: mastoiditis, sinus thrombosis, and brain abscess. Wilde's remark may well be quoted here, "When a discharge from the ear exists, we can never tell how, when or where it will end or to what it may lead." There were in this group 6 that required the post aural operation. If the present and post-suppurative troubles be considered together, it will be seen that 335 children were affected with, at some time, a suppurative process in the middle ear. There was but one case of internal ear deafness; but, as all cases of severe deafness were sent to other institutions for lip reading, this apparent peculiarity will be explained.

Many children suffered from a running nose and an eczematous condition of the upper lip. No mention is made of the condition of the nose and naso-pharynx in these cases. By many, this excoriation in children is considered to be almost pathognomonic of adenoids, and disappears rapidly after their removal.

Hypertrophy of the inferior turbinated bodies, lobulated and smooth, occurred only in 8 cases. How frequently does one hear of children having hypertrophy of the inferior turbinated body! They cannot have a true hypertrophy before development; and, as the turbinals are not developed until about puberty, the presence of these cases is difficult to understand. No mention is made of the action of cocaine on these nasal tumescences.

There were three cases of pus in the nose without adenoids. No further investigation was made to trace the source of the purulent discharge. Accessory sinus mischief, though very unusual in children, may have been present.

Spurs and deviations of the septum were found to be present, in a marked degree, in only two cases, a very small number, considering that the children are from a class where punches and bumps on the nose are of very frequent occurrence.

Many writers assert that adenoids are always present in the naso-pharynx of children, but, in Mr. Cheatles examination which, it is gratifying to note, not only included inspection but, what is more important, palpation, he found 425 cases in which the naso-pharynx looked and felt perfectly smooth. The adenoids were associated with enlargement of the tonsils in 174 instances, and existed alone in 260 cases, making 434 cases of adenoids in all. Aural mischief was found in 394 cases. If the investigator had found out nothing but the last mentioned fact, his labor would have been of immense service to the general practitioner to whom the child is usually taken for its first ear trouble. Those cases that had no adenoids were noticed to be more healthy than those that were so affected.

The report, which is quite lengthy, is one of the most important that has ever been made on children's ailments. It appears that, in Germany and also Holland, specialists have been appointed to examine the eyes and ears of the school children. There is no question as to the advisability of this. The difficulty has been usually that the stubbornness of the officials in charge of the children will not allow such examinations to be made. What is the condition of the sight and hearing in the pupils of Ontario's Public Schools? No one has the remotest idea. Those, however, engaged in special practice not infrequently see cases of defective vision and deafness that might have been cured, or materially modified,

if seen earlier. The Hon. G. W. Ross, while Minister of Education, was alive to this question. He endeavored to gain some information as to the extent of the existence of myopia in the public schools. Owing, however, to the work being carried on by the inspectors of the schools, no reliable statistics were obtained, though many opinions were given, but they were mere guesses. Would it not be possible for some eight or ten oculists and aurists (not graduate opticians, jewelers and druggists) in Ontario to compile statistics on these points. Some definite plan could easily be arranged and a valuable report be compiled. Moreover, the authorities would be appealed to much more strongly than if only one or two individual investigations were made.

A CASE OF INTRACTABLE NASAL HAEMORRHAGE.

THE London Lancet, cites a very interesting case of persistent nose bleed. The patient was a man, 49 yearsold, who used alcohol to excess and had symptoms pointing toward granular kidney. The blood was seen to issue from a point on the anterior third of the septum, about one centimeter above the nasal floor. The galvano-cautery and plugs, soaked in adrenaline solution, produced little effect. The patient ultimately was anaesthesed, and the whole mucous membrane stripped of the septum with scoop and curette. This was entirely successful in controlling the haemorrhage

I recently saw a case, in which a lady, past middle life, was subject to periodical attacks of bleeding from the nose. I saw her during one spell of bleeding more severe than usual, but had no trouble controlling the haemorrhage by packing the nostril. She had a very full hard pulse, and a hypertrophied left ventricle. The urine contained a small amount of albumen, and many granular and hyaline casts. The case was evidently one of chronic interstitial nephritis, associated with general arteriosclerosis, in which the nose bleed was simply nature's effort to relieve the over burdened blood vessels.

MEDICAL SOCIETIES.

BRITISH COLUMBIA MEDICAL ASSOCIATION.

THE third annual meeting will be held in Vancouver, B.C., on Friday and Saturday, August 29th and 30th. Members desirous of presenting papers will kindly notify the Secretary, Dr. J. M. Pearson, Vancouver, as soon as possible.

AMERICAN CONGRESS OF TUBERCULOSIS.

AT a meeting of the American Congress of Tuberculosis held in New York June 3rd, 4th and 5th, a reorganization was effected and the following officers elected for the ensuing year: Honorary President, Dr. Henry D. Holton, Brattleboro, Vt.; President, Dr. Daniel Lewis, New York, N.Y.; First Vice President, Dr. J. A. Egan, Illinois; Second Vice President, Dr. Frank Paschal, San Antonio, Texas; Third Vice President, Dr. E. J. Barrack, Toronto, Canada; Fourth Vice President, Dr. J. A. Watson, Concord, N.H.; Fifth Vice President, Dr. Romola, Guatemala; Secretary, Dr. George Brown, Atlanta, Ga.; and Treasurer, Dr. P. H. Bryce, Toronto, Canada.

The suggestion to hold a World's Congress of Tuberculosis in St. Louis in 1904 met with approval and steps are being taken to advertise this fact and secure the aid of medical journals, societies, physicians and scientists in making this movement a grand success. We wish the committee every success in their laudable efforts to lessen the sick and death rate from this disease, which is so distinctly a preventable one.

THE CANADIAN MEDICAL ASSOCIATION

THE Canadian Medical Association will meet this year in Montreal, on September 16th, 17th and 18th. It is expected that an unusually large number of members will be present.

The following arrangements for transportation will be in effect for the Meeting of the Canadian Medical Association and the Canadian Dental Association at Montreal, September 16th to 18th, 1902:

In order to take advantage of these arrangements it will be necessary for members to obtain, from agent at starting point, a Standard Convention Certificate, showing purchase of one way first class ticket to

Montreal between September 12th and 18th (both dates inclusive), which certificate will be honored on or before September 22nd, 1902, in Montreal by ticket agent of the line on which they arrive, for ticket back to their original starting point when certificate is endorsed by Secretary to the effect that delegate has been in attendance at the convention, on following basis :

If 300 or more attend from points south and west of Montreal holding Standard Convention Certificates, they will be given tickets for return, free, to original starting point via same route as used to Montreal.

If less than 300 (and more than 50) delegates are in attendance, holding above mentioned certificates, they will be given tickets for return to the original starting point, via same route as used to Montreal, at one-third of the one way first class fare.

From points west of Fort William, should special concessions *re* time limit be granted, particulars will be announced later.

If 50 or more delegates are in attendance, holding certificates, delegates from Toronto or Kingston travelling to Montreal via Richelieu and Ontario Navigation Co., may return via Grand Trunk or Canadian Pacific on payment of \$5.00 to Toronto or \$3.25 to Kingston. Delegates from Toronto or Kingston travelling to Montreal via Grand Trunk or Canadian Pacific, may return via Richelieu and Ontario Navigation Co. on payment of one-half the fare paid on going journey.

If 10 or more delegates from points east of Montreal are in attendance holding Standard Convention Certificates, delegates east of Montreal will be given tickets, free, for return.

Any further particulars may be obtained from the General Secretary, Dr. Geo. Elliott, 129 John St., Toronto, or from the Chairman of the Transportation Committee, Dr. J. Alex. Hurchison, 70 Mackay St., Montreal.

The meetings will be held in the various rooms of the Medical Faculty of McGill University. The address in Medicine will be given by Dr. Wm. Osler, of Johns Hopkins University, Baltimore; that in Surgery by Dr. John Stewart, of Halifax. On one or two days of the meeting, clinics will be held in the hospitals at such times as will not interfere with the general programme of the meeting, and yet enable those who so desire, to see or to exhibit living cases or specimens which may be of interest to the members.

The Pathological Museum will this year be one of the features of the meeting, and circulars have been issued by the Secretary of the Museum Committee, Dr. M. E. Abbott, announcing the intentions of the committee. Any contributions in the way of specimens will be gratefully received by the Secretary, and every care will be taken of speci-

mens lent and as soon as the meeting is over they will be re-packed and re-shipped to the owners by a responsible person. Specimens for the exhibition should arrive not later than September 6th. The committee is desirous more particularly of obtaining series of specimens illustrating diseased conditions of the liver, gall bladder and pancreas. To all those who may not have received circulars containing details of the Pathological Exhibit, the same may be had on application to Dr. M. E. Abbott, McGill Medical College, Montreal.

The Museum of Commercial Exhibits, which is under the special charge of Dr. J. W. Stirling, 255 Mount St., Montreal, will be found in the most suitable part of the medical buildings. A large and interesting exhibit is expected.

The chairmen of the local committees are as follows:—Executive Committee, Dr. F. J. Shepherd; Reception Committee, Sir Wm. Hings-ton, M.D.; Entertainment Committee, Dr. H. S. Birkett; Programme Committee, Dr. J. G. Adami; Transportation Committee, Dr. J. Alex. Hutchison; Finance Committee, Dr. H. L. Reddy; Pathological Museum Committee, Dr. Andrew Macphail; and Exhibition Committee, Dr. J. W. Stirling.

THE REFRACTING OPTICIAN DOES NOT TREAT DISEASE.

AN illustration, one of many similar ones constantly seen in the oculist's office, recently occurred in Philadelphia. A man consulted a physician asking for spectacles that would give him better vision than those he was wearing. The eyes-examined-free man had changed his lenses three times in a month. The oculist told the patient he had retinal hemorrhages, urged him to consult his general physician, warning him of the danger he ran by his carelessness, by continuing an active life, etc. Seeing that the patient would not take his advice, and even returned to the "ophthalmotrician," the oculist wrote to the general physician (who had not seen the patient for a long time) concerning the man's condition, his arteromatous arteries, hemorrhages, etc. It was all in vain. The quack's glasses were the best; the patient refused to pay the bill of the oculist, would not see the general physician, and his suspicion of medical men grew under the fostering care of the refracting optician. Last week, two months after the oculist's warning, the patient dropped dead from cerebral hemorrhage.—*American Medicine*.

UNIVERSITIES AND COLLEGES.

TRINITY UNIVERSITY JUBILEE.

THIS University has just celebrated its jubilee. During the fifty years that have passed since its foundation, the University has given many a fine scholar to the country. On the occasion of its jubilee the degree of D.C.L., *honoris causa*, was conferred upon the following:— Ven. Thomas Llwyd, Rev. G. C. McKenzie, Very Rev. Stuart Houston, M.A.; Ven. C. L. Worrell, M.A.; Ven. J. J. Bogart, M.A.; Ven. T. W. Allen, M.A.; Ven. S. J. Boddy, M.A.; Hon. R. Harcourt, M.A.; W. Osler, M.D., F.R.C.P.; Rev. J. P. Whitney, M.A.; Rev. J. O. Miller, M.A.; James Bain, Jr, Sir Oliver Mowat, Sir John Boyd, Justice Irving, Judge Senkler, J. P. Whitney, K.C.; E. D. Armour, K.C.

TRINITY MEDICAL COLLEGE.

SOME very important changes have been made in the courses of lectures to be delivered to the third and fourth year students. These years will not be required to attend classes together, as the courses of lectures to the years will be different. In this way, the fourth year students will not be required to take the same lectures they heard in their third year. This arrangement will no doubt enable the lecturers on each subject to give a special interest to his course, as he will not be required to cover so much ground; but rather to confine his attention to some subject that more especially interests him. The work of third and fourth years will thus be covered in a manner that ought to prove fresh and attractive to each of these years. The student will be able to hear nearly twice as many new lectures during his two final years, and without any additional demands on his time. This plan will admit of a much greater degree of specialization of subjects, with credit to the lecturer and advantage to the student. Those interested in medical education will, no doubt, watch the results of this extension of the graded system. Thus, for example, in the subject of surgery, heretofore the students were required, during their third and fourth years, to attend 160 lectures, one-half being repeated lectures, so far as the fourth year men were concerned. According to the new plan, the third and fourth year students will be required to attend about 130 lectures, all of which will

be new. What is true in surgery will also apply to the departments of medicine and gynæcology.

The Medical Faculty of Trinity University was established in 1850. Owing to various circumstances, it ceased to exist in 1856; but was re-established in 1871. The present College buildings, on Spruce street, were erected in the same year. From these, where the Medical Faculty has successfully, for thirty-one years, conducted its work, a long list of practitioners have gone forth. Not a few of these have been able to speak of their College in the words of Horace—

*“ Doctrina sed vim promovet insitam,
Rectique cultus pectora roborant.”*

UNIVERSITY OF TORONTO.

THE Annual Commencement Exercises were held on 13th June. Sir William R. Meredith, the Chancellor, presided. The attendance was very large. A splendid painting of Hon. Sir William Mulock, former Vice-Chancellor, was unveiled. The painting is one of the very best ever



University of Toronto Medical Building, now in course of erection near University College.

done by Mr. Foster. Mention was made, in connection with the ceremony, of Mr. Mulock's work in bringing about University Confederation.

The degree of LL.D. was conferred upon Chief Justice Armour, President Ira D. Remsen of Johns Hopkins, Dr. W. H. Drummond, J. P. Whit-

ney, J. J. Foy, K.C., Prof. R. R. Wright, Prof. J. Galbraith, Prof. Maurice Hutton, and Dr. R. A. Reeve.

At the Alumni Dinner, Mr. Goldwin Smith, in proposing the toast of "Alma Mater," said, "Alma mater is a very sweet title. It is a title fraught with pleasant recollections that will endure to the end of life, if the University has been indeed an alma and the student has been a worthy son. Old as I am, and dull as the year of old age is, the chimes in the tower of my old College at Oxford often come to me across the sea."

The Council of the University ranked the competitors for the Reeve Scholarship as follows: A. Moir, H. E. Roaf, P. W. Saunders, V. E. Henderson, G. W. Fletcher, A. E. Archer, and E. J. Davey. The Clark prizes in medical psychology were awarded thus: 1. G. W. Fletcher; 2. W. A. R. Mitchell.

McGILL UNIVERSITY.

MCGILL University has established a six year course in Applied Science and Medicine. This was adopted a few years ago in the Arts and Medicine course also. During the third year in Arts, or Science, the student may take up anatomy, physics and histology; and in the fourth year, anatomy, physiology, pharmacology and Chemistry. He then receives his B.A., or B.Sc., as the case may be. During the fifth and sixth years, he completes his medical studies and receives the degrees of M.D., C.M.

At its June Convocation, McGill University conferred the degrees of M.D. and C.M. and awarded medals and prizes as follows: Ames, C. A.; Anthony, T. B.; Baillie, S. A., B.A.; Blair, H. G. F.; Brennan, F. A.; Byers, J. R.; Campbell, A.; Campbell, J. A. E., B.A.; Cantlie, F. P. L.; Carter, W. LeM., B.A.; Christie, F. J.; Codrington, R. F.; Colby, J. C., B.A.; Coleman, C. E.; Cox, R. B.; Crozier, J. A.; Cullen, W. H.; Curren, L. M.; Currie, W. D., B.A.; Dixon, J. D., B.A.; Dixon, W. E., B.A.; Dorion, W. A.; Eastman, E. B.; Evans, Stuart; Featherston, H. C.; Folkins, H. G.; Forster, J. F. C.; Gardiner, R. J.; Gardner, W. A., B.A.; Green, F. W.; Halliday, J. LeR.; Harris, L. C.; Hart, F. W., B.A.; Harvie, S. K., B.A.; Henry, C. M.; Hellingsworth, J. E.; Hopkins, C. W.; Hyatt, E. A., B.Sc.; Irwin, F.; Johnson, J. A., B.A.; Johnson, G. R., B.A.; Jones, N. C., B.A.; Leney, J. M., B.A.; Lidstone, A. E.; Lomas, A. J.; MacCarthy, F. H.; Macdonald, A. A., B.A.; MacKinnon, G. E. L.; MacLaren, A. H., B.A.; MacNaughton, J. A.; McGibbon, D.; McGibbon, S.; McGrath, R. H.; McKee, W. E.; McKenzie, J. B., B.A.; McNeill, J. F.; Manchester, J. W.; Martin, H. E.; Mason, E. G.; Mason, F. C.; Mason, J. LeD., B.A.; May, L. W.; Menzies, J. E.; Moffatt, Geo.; Morrison, J. F.; Morse, W. R.,

B.A.; Mothersill, G. S.; Palmer, G. H.; Paterson, R. C., B.A.; Peters, O. R.; Pickard, L. N.; Pratt, C. M.; Ritchie, C. F. P., B.A.; Roberts, A. B.; Ship, M. L., B.A.; Smith, T. W.; Stockwell, H. K.; Tolmie, J. A.; Tracy, E. A., B.A.; Van Wart, R. McL., B.A.; Walker, H., jr., B.A.; Williams, R. G.

The prizes in the McGill Medical Faculty have been awarded as follows: Holmes gold medal for the highest aggregate in all subjects forming the medical curriculum—R. McL. Van Wart, B.A., Fredericton, N.B. Final prizeman for the highest aggregate in the fourth year subjects—W. A. Gardner, Huntington, Que. Third year prizeman—F. S. Patch, Montreal. Sutherland gold medal, for chemistry—E. M. McLaughlin, Winona, Minn. Second year prizeman—J. A. Nutter, B.A., Montreal. Senior anatomy prize—J. L. Robinson, St. Mary's, Ont. First year prizeman—F. J. Tees, B.A., Montreal. Junior anatomy prize—J. A. C. Tull, Antigua, B.W.I. The following have passed the final examination with honours: 1, Van Wart, R. McL., B.A.; 2, Gardner, W. A., B.A.; 3, Dixon, J. D., B.A.; 4, Manchester, J. W.; 5, Christie, F. J.; 6, Mason, J. L. W.; 7, Forster, J. F. C.

COLLEGE OF PHYSICIANS AND SURGEONS OF ONTARIO.

AT the recent meeting of the Medical Council it was decided, by a vote of 20 to 3, that it was inadvisable for the present that any attempt should be made to change the composition of the Council. A by-law imposing a fee of \$2 on every member of the College of Physicians and Surgeons was passed. It was also agreed to take steps to secure the passage of a bill through the Ontario Legislature to legalize the Dominion registration bill. A vote of thanks was also passed, and sent to Dr. Roddick for his efforts in connection with the passage of the bill through the Federal Parliament. The license to practice was conferred *honoris causa* on Sir Frederick Borden; and *in absentia* upon A. R. Farrell, M.D., J. A. Crosier, B.A., M.D., A. E. Burrows, C. A. Barnes, J. K. Nevin, M.B., J. Gunn, J. Henderson, and E. Latta, who are serving in South Africa.

It was decided that in future the honor instead of the pass matriculation would be required of students prior to registration with the Council. It was also agreed that students shall take their medical course after conclusion of their arts course, instead of taking parts of the two courses concurrently.

The following have passed the Final Examinations of the College of Physicians and Surgeons of Ontario, and are now licensed to practice: H. G. Arnott, T. D. Archibald, J. W. Atkinson, W. J. Brown, H. A.

Bowie, C. W. Brand, J. G. Bogart, J. B. Coleridge, F. J. Colling, John Collison, H. M. Collison, J. D. Chisholm, J. Corcoran, F. P. Coates, J. A. Campbell, T. V. Curtin, J. E. Drury, W. C. Doyle, H. C. De St. Remy, H. E. Day, G. F. Dalton, F. J. Doherty, G. Davis, C. R. Elliott, T. S. Genge, A. J. Grant, W. S. Grimshaw, V. E. Henderson, O. S. Haist, D. E. Hodgson, J. T. Hope, W. T. Hamilton, J. Herod, G. F. Jackson, S. Johnston, G. B. Jamieson, R. J. Kee, T. H. Leggett, R. W. Leader, C. P. Lusk, W. H. Lowry, R. H. Mullin, J. J. Morrow, J. W. Merrill, J. J. Mason, J. W. Moak, E. A. Martin, A. D. McIntyre, D. G. McIlwraith, J. A. McCollum, J. M. McCormack, J. McCulloch, G. R. Pirie, S. E. Porter, R. Parsons, H. R. Parent, W. C. Redmond, J. Rogers, C. G. Robertson, D. M. Robertson, J. F. S. Riches, A. E. Rannay, C. M. Reason, A. B. Rutherford, E. Richardson, P. W. Saunders, J. Smillie, J. A. Smith, G. W. M. Smith, A. Turner, Isabella Wood, C. S. Wainwright, Jean M. Willson, L. N. Whitley, D. G. Whealey, W. D. Young.

ONTARIO MEDICAL COLLEGE FOR WOMEN.

THE above institution has just completed one of its most successful years in its history. All of the students going up from the college for their final examinations at Trinity and Toronto Universities have been successful, while at the College of Physicians and Surgeons, all of the students from the Women's Medical College who tried the examination were successful.

Five out of the eight members of the graduating class have already secured appointments as house physicians in American hospitals:—Dr. Emma Connor, at the Women's Hospital, Philadelphia; Dr. Elizabeth McMaster, and Dr. Isabella Thomson, at the West Philadelphia Hospital for Women; Dr. Isabella Wood, at the New England Hospital for Women and Children, Boston, Mass., and Dr. Lazelle Anderson, at the Children's Hospital, Staten Island, N.Y.

LAVAL UNIVERSITY.

THE following have passed the final examinations in the Faculty of Medicine of Laval University:—Aubin, Aubry, Bourgeois, Beausejour, Charland, G. Cote S. Cote, Collette, Cartier, Collette, Dufautrelle, Derome, Demers, Dubois, Dauth, Ethier, Fortin, Frigon, Gagnon, Giroux, Lanoue, Langlois, Lafleur, F. Lebel, L. Lebel, L. Leduc, Massicotte, Masson, Moreau, Masse, Martel, O'Brien, Pilon, Pellerin, Page, Rochon, Ricard, Senesac, Scheller, Turcotte, Tasse, Vermet, Verdum.

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EDITORIAL.

THE KING'S ILLNESS.

THE following is a succinct history of the King's illness up to the time of the operation.

On Friday, June 13th, His Majesty was much fatigued after the discharge of many arduous duties. He had a late supper and retired to bed in Windsor Castle.

On the morning of Saturday, June 14th, he complained of abdominal discomfort. He was seen by Sir Francis Laking. In the afternoon he was much better, and went to Aldershot, the weather being bad. During the night he complained of abdominal pain and distension.

Sunday morning, June 15th, at 5 o'clock, Sir Francis Laking arrived and prescribed remedies which relieved the symptoms. Sir Thomas Barlow was sent for and stayed during Sunday. In the afternoon the King was chilly, or had a rigor.

On Monday, June 16th, he returned in a carriage to Windsor. He bore the journey well, and felt better at the end of it.

Tuesday, June 17th, was an uneventful day, everything appearing to be going on well.

On Wednesday, June 18th, Sir Frederick Treves was sent for. His Majesty's temperature was elevated, and there were swelling and tenderness in the right iliac fossa. In short, there were symptoms of perityphlitis.

During Thursday, June 19th, the King improved.

By Friday, June 20th, the ominous symptoms had disappeared.

On Saturday, June 21st, Sir Frederick Treves again saw the distinguished patient. He found his temperature normal, and the swelling in the iliac region almost gone. It was then thought the King was on the rapid road to recovery.

Sunday, June 22nd was an uneventful day in the case.

On Monday, June 23rd, the King travelled from Windsor to London.

On Tuesday morning, June 24th, the symptoms became very acute. The necessity for an operation was explained to the King. Lord Lister and Sir Thomas Smith now saw His Majesty, along with Treves, Barlow

and Laking, and concurred in the advisability of an operation, which was performed at 12.30. The anæsthetic was administered by Dr. Frederick Hewitt. On making an incision, four and a half inches in depth, a large abscess was found. It was drained by two tubes of large calibre, around which was packed iodoform gauze.

It is not possible to state the exact nature of the King's illness. The terms perityphlitis and appendicitis have been used in connection with the case. The probabilities are that the abscess was due to disease in the appendix, which had become inflamed and suppurated. Such a condition is a serious one, as the risk of general peritoneal infection is considerable. Fortunately, nature succeeds often in walling off the inflamed parts, and, by the time pus has formed, it has become localized. This was most likely so in the King's case.

There are some who think that the operation was unduly postponed, or that the wound could have been better treated in some other manner than the one adopted. The King had at his bedside five members of the medical profession than whom it would be impossible to surpass in eminence. Lord Lister is known to all; and has been professor of surgery in Glasgow University, and King's College, London, respectively. Sir Thomas Smith is surgeon to St. Bartholomew's Hospital. Sir Francis Laking is a physician of eminence, and is in connection with St. George's Hospital. Sir Thomas Barlow is professor of clinical medicine, University College, London. Sir Frederick Treves is surgeon to London Hospital. They would be competent to judge what was best for their patient.

The following opinion, however, coming from John B. Deaver, of Philadelphia, who is an authority in such matters, is noteworthy: "We must remember the tremendous responsibility imposed upon the eminent physicians attending His Majesty. They were called upon to decide a most momentous question, not only the nature of the ailment, but the proper line of treatment as well. The improvement in his condition, together with other weighty reasons, justified them in the course which they have pursued."

Having due consideration for the age of the patient, his exalted position, and the approaching coronation ceremonies, is there anything more reasonable than that his surgeons and physicians should have been most solicitous to avoid an operation; and we could all have wished with them that such had been possible.

The wild rumours of a necessary and severe secondary operation are arrant nonsense. "As a matter of fact, after an abscess has once formed, very little more is heard of the appendix." It is worse than

useless to grope in the bottom of a foul abscess for it at the time of opening the abscess.

It is a matter for congratulation that the bulletins gave the patient's condition in plain words, and without the accompaniments of pulse, temperature and respiration records. There is not a member of the profession throughout the Empire who does not rejoice with the King over his recovery, or who is not proud of the part taken in the case by those in attendance, who, without unseemly demonstration, acquitted themselves so well.

The weight of nations on their shoulders lay,
The Empire's highest life they had in charge;
For he, whose sceptre o'er earth's fourth holds sway,
Was ill, and dangers to his life loomed large.

Their hearts were bold as was their counsel wise;
Nor patient's rank, nor world's gaze, them swerved
To right, or left, of science, clear apprise;
And well their King and country thus they served.

PUERPERAL ECLAMPSIA.

IT has long been taught that the most important thing to do in the treatment of puerperal eclampsia, is to empty the uterus with all due haste. Against this teaching Dr. G. Ernest Herman read a paper before the Medical Society of London a short time ago. He took strong ground against forcible delivery, and the performing of certain operations, such as incising the os and vagina to aid the expulsion of the child.

He goes on to show that it is now fifty years since rapid delivery was advocated for the relief of convulsions during labor. The practice has still to be defended. When a real advance is made in treatment, it does not, he contends, take such a long time to become accepted by the profession. On the contrary, the whole question has recently been argued anew, with a long array of statistics to prove the value of rapidly emptying the uterus.

In Dr. Herman's paper there is a collection of cases recorded, numbering 2,142. Of these cases, the fits ceased in 921 when delivery had been completed, whereas they continued in 1,221 for some time after the birth of the child. This clearly proves that the emptying of the uterus in itself is not sufficient to arrest the convulsions.

He then gives another set of cases to show the mortality, with and without forced delivery. The cases were collected from the best sources and in the experience of the most competent obstetricians. The result is that when delivery goes on without operative interference, the death rate to mothers is 20 per cent. In all cases of accelerated delivery, the death

rate was 25 per cent. He does not favor caesarian section, nor Dührsens vaginal sections.

Dr. Herman advocates the palliative and expectant treatment. He employs morphine hyperdermically to control the convulsions. In many cases the temperature runs up rapidly. In these cases he recommends the tepid bath, cooling down the water to about 80°F. The patient is then put to bed, and well wrapped up. By this means the temperature is reduced, and the pulse rendered much less frequent and tense. Free perspiration is also induced.

The treatment to be gathered from Dr. Herman's paper is to the effect that all attempts at forced dilatation, incisions, rapid delivery do more harm than good, and materially increase the death rate. This reduces the treatment to the expectant and palliative. Purgatives, bleeding, morphia, anaesthetics, diaphoretics, the hot bath, will still remain as the therapeutic measures that the attendant must rely upon in the management of these cases.

CHRISTIAN SCIENCE.

CHRISTIAN Science is a jumble of the many metaphysical speculations of the past two thousand years, and more. In the teachings of this cult there is nothing new. It is quite unreasonable to expect that Mrs. Eddy would add anything to what has been thought and said by the sophists, idealists, metaphysicians, pseudo-scientists, pessimists, cynics, theorists, and so on, all down the centuries.

According to Christian Science, there is no need for any knowledge of medicine in order to understand and treat disease. To heal the sick, all that is necessary is to read "Science and Health with Key to the Scriptures." All that one requires to believe in is the real, or "immortal mind," and the unreal, or "mortal mind." A knowledge of broken bones, inflamed organs, ruptured vessels, growing tumors, germ infections, and such like things is worse than useless. It would be trying to know something about the unreal; and would be only a delusion of poor, unreal, mortal mind, which after all does not exist.

To the Christian Scientist, matter has no existence. It is a delusion of mortal mind, an illusion, an error. Matter is unreal and mortal mind is unreal; it is only another name for mortal mind. The human body has no existence. Everything material is only a subjective sensation. This is idealism carried to the extreme. The inference is at once apparent that, if the human body is nothing, then its diseases are nothing. Nothing cannot be diseased or injured. Disease, like the body, is only a belief of mortal mind, which in turn does not exist. This belief of mortal mind leads to the absurdity that an injury may deform one because of a

fear that it would do so; that a certain drug will destroy life, because belief has given it the power to do so; that animals become ill, because it is believed they will. Exercise makes one strong, because of the belief that such will be its effects.

Were it not for the beliefs of mortal mind, it would not be necessary to take food. The Christian Scientist has to eat, because he is under the influence of long custom, though he knows that food, air and drink have nothing to do with life. These things are material, unreal, and a delusion; whereas life is real, immortal, and not a delusion of the mortal mind. Christian Science is a sort of crude pantheism, and that we live in God, the all good, the immortal, the real, and therefore cannot be sick, or suffer injury. Man lives in God and therefore knows all this by revelation; and also that reason is an infallible guide, as our ideas are God's ideas. Physical sciences have no real existence, as they depend upon our senses and they cannot be trusted as tests of truth. Like mortal mind, they cause blind belief, illusion, error. Things that are seen, felt, touched, tasted are unreal, and mere phantoms. It is only what cannot be recognized by the senses that is real and eternal.

The position of the Christian Scientist is an absurd one in supposing that, because God is all, matter does not exist. This is contrary to revelation and experience. Then again, his position is thoroughly irrational in supposing that sensations are not real. Such extreme idealists, as Fichte, Hume, and Berkeley, never went so far as this. They held that our sensations are very real; but that it was only these that we recognized; and, consequently, knew nothing of matter in itself. Remove all sensations from the Christian Scientist, as unrealities, and his so-called reality of immortal mind would become a nonentity. There would be no idea, divine or mortal, in his vacant soul. But further, there could be no such thing as cures of diseases which do not exist. By the teachings of the scientist, disease is an illusion of mortal mind. So must also be its cure. Disease does not exist, except as a belief, and belief is unreal. The scientist is thus forced to the position that his cures are unreal. Finally, Christian Science has done nothing that cannot be done by suggestion, and time. Some conditions are influenced by suggestion. These belong to the neuroses. There is nothing new in this. The curing of disease by the laying on of hands, charms, red flannel, white goat skins, staring at the moon, etc., has run down the centuries.

HUMAN AND BOVINE TUBERCULOSIS.

THE medical profession had almost unanimously concluded that man could contract tuberculosis from cattle, and that cattle could contract the disease from man. This opinion received an unexpected and

rude shock last July when Dr. R. Koch declared that the disease differed, as it appeared in man and animals, so much that it could not be communicated from the former to the latter ; and, perhaps also, not from animals to man. This set many to work on a variety of new experiments and investigations.

Dr. Mazyck P. Ravenel, bacteriologist of the State Live Stock Sanitary Board of Pennsylvania, delivered an address before the Pathological Society of Philadelphia, on 24th April, on "The Intercommunicability of Human and Bovine Tuberculosis." The address was published in the May number of the University of Pennsylvania *Medical Bulletin*. In his address he enters very fully into the subject, both historically and experimentally.

Historically he gathered together, in his address, a long list of cases and experiments to show that the disease can be communicated from man to animals. In these cases the clinical and pathological evidences were so conclusive as to leave no doubt, especially when the persons reporting these cases, or making the experiments, included such names as Villemin, Chauveau, Bollinger, Klebs, Kitt, Crookshank, Sydney Martin, Thomassen, Nocard, de Jong, Arloing, and others. There are instances on record, where the animals were undoubtedly infected by their attendants who were tubercular.

Dr. Ravenel gave a report of his own experiments. He gave the most convincing proofs that he had succeeded in a number of experiments to render animals tubercular by means of tubercular matter obtained from the human subject. On this aspect of the question there cannot be the slightest doubt. Every feature of these cases were typical, both clinically and pathologically, of animal tuberculosis. He thought it would be of much importance if he could obtain the tubercular material from a case where the disease arose clearly from infection through the alimentary canal, as such a case would be likely from food or milk.

From one such case, where there was no doubt as to the primary seat of the disease being the alimentary canal, he made a culture from the mesenteric glands. With this he inoculated calves. He found that this culture was intensely pathogenic to them. This culture gave rise to tuberculosis in the animal so much more vigorously and certainly than is usual with human tubercular virus that the inference becomes very strong that the child contracted its disease from a bovine origin, and that this explains why the animals responded so readily to the inoculations made from this case. It appears that the tubercular bacillus undergoes changes, as it may happen to be propagated in the human or the bovine host. If it has been communicated from one human being to another, for a length of time, it loses some of its pathogenic powers over the bovine species.

In the above case, it had only one removal from its bovine origin and the pathogenic power for the latter still existed in an active degree. As cultures are passed on from animal to animal they rise in virulency.

It was then shown that human and bovine tuberculosis possesses the same histological characteristics. This overcomes the difficulty advanced by Virchow, who contended that this was of more importance than the presence of the bacilli. It is thus made clear that tuberculosis in man and the "pearl diseases" in cattle have the same minute anatomy. It has been settled that acute miliary tuberculosis can be induced in cattle by inoculations with both bovine and human virus; and the presence of the miliary tubercle is what Virchow demanded as the test of unity in the disease when found in the two species.

There are differences in the appearance of the human and bovine tubercle bacilli. But these differences disappear as the culturing process is continued; and finally both become identical, especially in certain culture media. It would thus seem that the bacilli cultivated in the human body may differ in appearance from those taken from cattle, and yet have a common ancestry.

Much evidence is then submitted to show that man may be infected through the tonsils and intestinal canal by means of tubercular food and milk, or through wounds.

EDITORIAL NOTES.

The Tallerman Treatment.

Dr. David Walsh, in the *Medical Press and Circular* for May 14th, states that he has been able to cure some obstinate cases of skin diseases, as eczema and psoriasis, by the use of superheated air. Copious sweats are produced and the effect is very powerful on the skin.

Doctors Pray for the King.

A unique and impressive scene was witnessed in St. Paul's Cathedral on the evening of July 2, when some 2,000 doctors assembled beneath the dome of the building and offered prayers for the King's recovery. Many of the doctors wore their academic robes. A litany was sung in procession, the doctors joining in the singing. At the conclusion of the service a message was sent to Queen Alexandra, expressing the fervent hope of his Majesty's speedy recovery.

Tetanus and Vaccination.

Tetanus and Vaccination is the subject of a careful study by Dr. Joseph McFarland, of Philadelphia, in the May Journal of *Medical Re-*

search. He arrives at a number of very important conclusions. Tetanus is not frequent after vaccination, but recently the number has been out of proportion to former experience. These cases have been mostly American, and along the eastern States. They occurred in small numbers after use of various vaccines; but mainly after the use of a particular vaccine. The tetanus bacillus appear to come from the manure and the hay. They occur most frequently in the glycernized lymph. The tetanus bacilli have been found in vaccine lymph, used in 1901. The prevention of this complication must be sought in great care in the preparation of the vaccine virus, in order that it may not become infected from the manure and hay of the premises where it is produced.

Diphtheria Diagnosis and Treatment.

Sir. H. Beevor in a clinical lecture reported in the *Med. Times and Hosp. Gaz.* remarks that diagnosis is not always easy, as every tenth case sent into hospital proved not to be diphtheria. Early diagnosis was very important, as cases treated in the first and seventh days yielded a death rate of 6 per cent., on the third day, 12 per cent., and on the fourth day, 19 per cent. In all suspicious cases take a culture; but not to wait for this, giving antitoxin at once from 2,000 to 7,000 units. The more marked the local lesions, or the more advanced the disease, the more larger should be the dose.

Syphilis and General Paresis.

Dr. A. W. Hurd, in his article in the etiology of general paresis in the *Medical News* for 17th May, remarks that syphilis is the most common factor in the causation of the disease. It may cause it directly; or by devitalising the system. There are usually other factors, as worry excitement, alcoholism, excessive venery. Syphilis can be traced in from 60 to 80 per cent. of all cases. In a few cases, no other causes can be discovered than dissipation, worry, excitement, over work, or injury.

U. S. Government and Tuberculosis.

A short time ago, on the advice of the surgeon-general of the Marine Hospital service, the Treasury Department of the United States issued a written order to prevent the landing of any person suffering with tuberculosis. The New York Academy of Medicine took the matter up and passed a number of resolutions upon the subject, from which the following is quoted: "That, while the academy is convinced of the communicability of tuberculosis and urges all possible precautions against the spread of the disease occasioned by sputum and tuberculous food, the academy is opposed to all measures by which needless hardship is im-

posed upon the consumptive individual, his family and, his physician ". When the matter was brought fully under the notice of President Roosevelt he at once issued an order allowing Mr. Boden, a consumptive, to land. The action of the New York Academy and President Roosevelt may do much to check the spread of this senseless scare, that might do much harm against the wise efforts now afoot to control the disease.

Doctors in the Legislature.

The following doctors were elected, on 29th May, to seats in the Ontario Legislature :—J. O. Reaume, Essex N.; David Jameson, Grey S.; E. Jessop, Lincoln; F. S. Snider, Norfolk, N.; W. A. Willoughby, Northumberland, E.; R. A. Pyne, Toronto, E.; Beattie Nesbitt, Toronto, N.; H. G. Lackner, Waterloo, N.; G. A. Routledge, Middlesex, E.; S. Bridgland, Muskoka; M. James, Nipissing, E.; and M. Currie, Prince Edward. This is a strong and able contingent to look after the interests of the medical profession, to which we are sure they will prove thoroughly loyal.

Prof. Von Leyden Honored.

Ernest Von Leyden celebrated his 70th birthday on 20th April. Few men stand so high in the esteem of the medical profession as Von Leyden. He had been a clinical teacher for forty years. His pupils are found all over the world. The occasion of his birthday was made famous by the publication of two volumes, containing papers from his many pupils and medical admirers and friends. To Von Leyden, whose writings touch upon every subject of internal medicine, the words of Dr. Johnson about Oliver Goldsmith are peculiarly applicable, "*Nihil erat quod non tetigit: nihil quod tetigit non ornavit.*"

Sterilization of Milk.

Anent the sterilization of milk, Dr. Vaughan, of Ann Arbor, made some very important remarks some time ago at the meeting of the American Medical Association. He pointed out that the most dangerous germ in the milk is the colon bacillus. It is sometimes very virulent. After a series of careful experiments he showed that heating the milk to 356° F. does not destroy the toxin of the colon germ, though the germ itself may be destroyed. A very small dose of the colon germ toxin may prove fatal. In this way attempts at sterilization may completely fail. He mentioned that the only safety lay in proper care over the milk supply, so as to avoid contamination with the germ.

Advertisements of Quack Medicines.

The Daily Star of Toronto puts up the contention that some patent medicines possess real merit, and may be allowed free sale. This is rarely

true as to the merit ; but should never be so as to the sale. No medicine should be allowed free sale, unless its composition is printed on the wrappers. The public could then judge as to its merits. It is not true that doctors order proprietary medicines. What is true is that they frequently prescribe preparations from well known manufacturers and chemists ; but the formulæ are known in all these cases. This is quite a different thing from the public prescribing for itself preparations, the compositions and actions of which they know nothing. One of the curses of the present day is the taking of so much patent medicine, by people who do not know what is in the medicine, nor for what they are taking it, but simply because some greedy vendor says it is good for everything.

Never Give Up Your Patients.

One of the great secrets of success in the practice of medicine is a cheerful manner. If you cannot always say you can cure a case, you can at least say that it can be relieved. Always evince indomitable perseverance in the relief of your patients. Never fold your arms in despair. Fight every inch of ground with whatever disease you may be called upon to deal.

Aortic Diseases.

Dr. Thomas E. Satterthwaite writes in the *Post-Graduate* for June on the above subject. He says that aortic insufficiency may be of two kinds—the relative and organic. The former is rare. The latter is generally caused by congenital defect, endocarditis, arteriosclerosis, strain, alcohol, syphilis, lithaemia, and rupture of a diseased valve. Aortic insufficiency usually comes on insidiously. As some of the blood flows back into the left ventricle, meeting what is there already, there is dilatation and hypertrophy, compensation may fail, and leave the heart dilated.

An Interesting Medical Judgment.

A short time ago Judge Doherty, of Montreal, delivered an important judgment in a medical case. A man met with an accident by which his foot was crushed. He was admitted to the Royal Victoria Hospital, where Drs. Bell and O'Brien removed the toes and part of the foot. Two weeks later the entire foot was removed. The man entered suit against the hospital and the doctors. The judgment was that the doctors had invaded the patient's rights, as he had the control over his own body, and that a surgeon has no right to perform an operation against the will of a patient, unless life is concerned. It was also held that, as the condition of the limb was improved by the second operation, there were no damages. The case was, therefore, dismissed.

The Pathology of Exophthalmic Goitre.

The pathology of this disease has long been much debated. Two main views have been advanced—the nemopathic and the glandular. Charles R. Dana, in the *New York Medical Journal* for June 14, proclaims himself an adherent of the former theory. The primary disturbance is in the cerebral centres controlling the thyroid gland. The vascular derangements of the gland, following upon the nerve derangements, lead to perversion of function. There is evidence of a neurotic personal and family history in almost all the cases. Then note, too, the effect of shock, strain, emotion, etc., in causing the diseases. In proof of the nervous origin of the disease, Dr. Dana reports the findings in a chronic case where there were some marked changes in the nuclei of 12th, 10th, and 9th. The nuclei of the hypoglossal and vagus showed distinct degeneration.

The Sale of Noxious Drugs.

A short time ago, Dr. J. W. Kyger read a paper before the Kansas City Academy of Medicine on "The Decadence of the American Race." He drew attention to the low birth-rate, and to the numerous advertisements of nostrums and means to prevent or cut short pregnancy. The academy passed a strongly worded resolution, which was forwarded to the American Medical Association, and to the Postmaster General, asking that papers be put under censorship with the view of stopping the publication of such advertisements. It is to be profoundly regretted that the greed for gain induces so many newspapers to advertise certain preparations which are clearly intended for immoral and improper purposes, and others of equally clear fraudulent claims of merit. No reputable paper should publish an advertisement of an article of a medicinal character, when the claims are too good to be true, or when the use of it would be attended by criminal results.

Human and Bovine Tuberculosis.

Some time ago the medical profession was startled by Dr. Koch's statement that human and bovine tuberculosis was not identical, and that man did not contract the disease from cattle. Chaveau has experimented on animals with human and bovine tubercular germs. The results were identical. The calf showed the same kind of local lesions, before general tuberculosis occurred. This proves that calves inoculated with human and bovine tuberculous material yielded the same results. Dr. Arnold Hiller, in *Deutsche Med. Woch.*, April 10, states that he does not agree with Koch. He contends that intestinal tuberculosis is fairly

common in both children and adults. This could arise from tuberculous milk or meat. He mentions the case of a man who was tattooed on both hands, milk from the same cow having been used. Both hands developed lupus, Prof. Behring, of Marburg, in his recent work, contends that human and bovine tuberculosis is identical. He has infected animals from man.

Compulsory Vaccination.

The Supreme Court of Kansas, a short time ago, decided in the case of *Osborn v. Russell* that the State Board of Health had no power to insist on compulsory vaccination. The Act provides that "the State Board of Health shall supervise the health interests of the people of the state." The Board of Health adopted the following: "No person until after being successfully vaccinated shall be admitted into public or private schools." The court held that the section in the Act did not go so far as to justify the State Board of Health in adopting the above regulation. The school Act of the State declares, "that the schools shall be free to all children, etc." Under these circumstances, the State Board of Health had no power to refuse admission into a public school to a child, because such child had not been successfully vaccinated. Compulsory vaccination did not come within the meaning of the words "supervise the health interests of the people"

Smoke Nuisance.

From time to time the question of coal smoke from factories and other establishments where there are large furnaces, comes up for a passing criticism. Nothing has been so far done towards the abatement of the smoke nuisance. In London, England, there has existed, for some time, a society for the study of this subject, and for the dissemination of information on it. The cities of Canada are now assuming considerable importance as manufacturing centres, and it would be well if some efforts could be made to abate the smoke nuisance. Clouds of smoke are objectionable to the eye, dirty to the clothing, and injurious to the lungs. It may be that no public body will take up this matter, and that any reforms to be sought will have to come from some voluntary effort as in London. Much can be done to improve the present state of affairs. We hope that the matter may be taken up in some quarter.

The Heart Muscle in Rheumatism.

Rheumatism may affect the muscular tissue of the heart in various ways. In the *Lancet*, for 7th June, Dr. Fisher, of Bristol, points out that there may be dilatation, going on to a fatal termination, without

valvular lesion or pericardial adhesion. In some cases there may be hypertrophy of the heart without either valvular disease or pericardial adhesions. Myocarditis may be present without pericarditis. In some cases there may only be a weakening of the myocardium, as shown by faintness, pain and heart-hurry. He thinks the dilatation and hypertrophy are due to the action of the rheumatic poison.

Tuberculin in Tuberculosis.

Dr. W. C. Wilkinson, Lecturer in Medicine, University of Sydney, in the *British Medical Journal*, June 7, contends that tuberculin is a very valuable remedy in tuberculosis. It should be used early in the disease, and before there is mixed infection. After this has occurred it is of doubtful value, may indeed do harm. In every one of 70 cases treated in this way, there was improvement. He contends that it is only now that the true value of tuberculin is being determined. If there be not mixed infection, and the tuberculin is properly used, the bacilli gradually die out, and the symptoms of the disease disappear.

Lactic Acid in the Treatment of Baldness.

Balzer (*Medical Times*) recommends friction of the bald part daily with a 30 per cent. solution of lactic acid until the skin becomes inflamed. The treatment is discontinued until the local irritation subsides when it is begun again. The results are said to be good, in some cases a new growth of hair being obtained in three or four weeks. The germicidal action of the remedy and the local stimulation produced afford a satisfactory explanation of the beneficial effects.

OBITUARY.

WYATT JOHNSTON, M.D., C.M.

We regret to record the death of Dr. Wyatt Johnston, of Montreal. He was educated at McGill. For a number of years he was connected with his alma mater, as one of her esteemed professors in the Faculty of Medicine. He was an original worker in the field of pathology. A few weeks ago he was elected to the Chair of Hygiene. He took a deep interest in matters pertaining to public health, and was an active member of the National Public Health Association. He was well known also for his work in jurisprudence. Thrombosis of one of the femoral veins occurred and sudden death from an embolism resulted.

PERSONAL.

Dr. Bowlby has removed to Simcoe.

Dr. Wade has left Renfrew for Great Falls, Montana.

Dr. J. Leslie Foley has removed to 66 Mackay street, Montreal.

Dr. Allison Smith has removed from Prince Albert to Medicine Hat.

Dr. Peter Wood, of Hamilton, has recovered from his recent illness.

Dr. B. Field, formerly of Toronto, has located at Thornloe, Temiscamingue.

Dr. D. H. Arnott, of London, was married to Miss A. L. Fram on 10th June.

Dr. Uren, of Toronto, has been appointed to the staff of St. Michael's Hospital.

A movement is on foot to establish a contagious diseases hospital at Regina, N.W.T.

The Toronto Western Hospital has acknowledged donations in cash of nearly \$7,000.

Dr. G. C. Munro, of Wheatley, Ont., is in London convalescing from a severe illness.

Dr. Arthman A. Bruere has resigned the chair of physiology in Bishop's College.

Dr. Ferdinand Fleury has been reappointed Medical Superintendent of Notre Dame Hospital.

Dr. R. J. Gunn, who had practised in Whitby since 1849, died a short time ago in his 89th year.

Dr. W. G. Turner has been appointed Superintendent of the Montreal General Hospital.

The Sisters of Providence propose erecting a modern hospital at Vancouver, B.C., to cost about \$75,000.

The Carlton County Hospital, Woodstock, N.B., has received donations amounting to \$2,734.

Drs. Wright, Graham and Waters are the new house staff for the Sick Children's Hospital, Toronto.

Dr. L. A. Montpetit, 110 St. Lawrence street, Montreal, slipped and broke his leg. He was taken to the General Hospital in a cab.

Dr. Arthur, of Sudbury, in shutting the door of the safe in the office, the end of his left thumb was caught and completely cut off.

Dr. S. J. Mellow, of Port Perry, has been appointed an Associate Coroner for the County of Ontario.

Dr. Ruttan has been appointed professor of chemistry in McGill University, to succeed Prof. Gerwood, who lately resigned.

Dr. Boulet, Secretary of the College of Physicians and Surgeons of Quebec, died at his home, Quebec, 6th June.

Dr. and Mrs. Shaw Webster, of Toronto, have returned from New York. The doctor has been visiting the principal hospitals in several of the American cities.

Dr. O. W. Colbeck, late of the Toronto Western Hospital house staff, has been appointed house physician to the Mount Airy Sanitarium for Children, Baltimore.

Dr. E. R. Secord, of Brantford, who went to Italy some time since for the benefit of his health, has returned home. He has had conferred upon him the Fellowship of the Edinburgh Obstetrical Society.

The Toronto General Hospital has appointed the following as its assistant medical staff: Drs. R. A. Mattin, J. D. Chisholm, T. R. McCollum, A. B. Rutherford, P. W. Saunders, C. R. Elliott, S. Johnston, R. N. Kyles, W. H. Lehry, and R. Parsons. As alternates: D. Lancaster, G. Davies, S. J. Farrell, and G. B. Jamieson.

BOOK REVIEWS.

PROGRESSIVE MEDICINE.

A quarterly digest of advances, discoveries, and improvements in the Medical and Surgical Sciences. Edited by H. A. Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, etc., assisted by H. R. M. Landis, M.D., Physician to the Out-patients Department of the Jefferson Medical College Hospital. Vol. II June 1902. Surgery of the abdomen, including hernia; gynaecology, diseases of the blood and ductless glands, the haemorrhagic diseases, metabolic diseases, and ophthalmology. Lea Brothers & Co., Philadelphia and New York, 1902.

THE present volume, like all its predecessors in the series, is a handsome one. It is gotten up in the very best style of the book-making art. The paper, type, illustrations, and binding are all that could be desired.

William B. Coley, Clinical Lecturer on Surgery in the College of Physicians and Surgeons of New York, is responsible for 160 pages of the volume. He reviews the work done on penetrating shot-wounds of the abdomen, tuberculosis of the peritoneum, hernia, appendicitis, the abdomen in general, the stomach, duodenum, omentum, liver, pancreas, spleen, kidney, intestines, and rectum. It is impossible to review all the above. On the subject of appendicitis, a few important statements may be taken from the volume. It holds that chronic cases are really not

cured by medical means, that in acute cases operation should be performed within the first 24 hours, and that in abscess cases drainage is the safer plan to follow. On the liver and bile two important facts may be noted: that healthy bile in large quantities is not irritating to the peritoneum; and that the establishment of collateral circulation is of great benefit in ascites from cirrhosis of the liver.

Dr. John G. Clark, of the University of Pennsylvania, digests the progress of gynæcology in 70 pages. In purulent pelvic cases, the vaginal route is highly recommended. On cancer of the uterus radical surgical treatment is the only treatment in the early stages. In the cases not suited for operation, it is recommended to remove as much diseased tissue as possible, and then freeze the parts with ethyl chloride. This may be repeated at first every three days, and later less often. The freezing spray is harmless, and controls the cancerous growth. It may be necessary to cauterize and pack, after curetting, and prior to the freezing. In distention of the bowels after abdominal operations, enemata of alum, one drachm to the quart, is spoken highly of. It usually acts in five to fifteen minutes. Stypticin is recommended in the following forms of uterine hæmorrhage: in virgins, in subinvolution of the uterus, in post-purum endometritis, and at the climacterium when no lesion can be found.

Dr. Alfred Stengel takes the section on the blood and gland diseases. On pernicious anæmia the statement is made that most now believe in a toxic origin for the disease, though its nature is not fully made out. On Leukæmia it is stated that its etiology is still an unsolved problem. On scurvy it is said that the modern tendency is to regard it as a bacterial disease. On purpura the statement is made that it is now recognised as secondary to various diseases, and is an expression of some form of infection. The nature of exophthalmic goitre is still in doubt, but the evidence is in favor of its thyroid origin. On acromegaly it is mentioned that the evidence is not now so strong that it is due to disease of the pituitary gland as it was a few years ago. This gland is found to be normal in some cases of acromegaly.

Diseases of the eye are ably and fully handled by Dr. Edward Jackson, of Philadelphia. For ophthalmia neonatorum a 5 per cent. solution of protargol is highly recommended. It is also stated that the disease is not always due to the gonococcus.

The whole volume is well up to date; and, on the topics covered by it, is an excellent guide and work of reference.

HUMAN EMBRYOLOGY AND MORPHOLOGY.

By Arthur Keith, M.D. (Aberd'n.), F.R.C.S. (Eng.) Lecturer on Anatomy London Hospital Medical College. Formerly Hunterian Professor, Royal College of Surgeons, England, and examiner in Anatomy, University of Aberdeen. Illustrated. pp. 324. London. Edward Arnold. 1902.

THE suggestion to teach morphology and embryology from the clinical standpoint would seem absurd to the man who is not in sympathy with modern methods of teaching scientific medicine. When we find a man, in the compilation of a book with the above title, stating that "clinical utility was the criterion employed" in determining the scope of the work, we pause to ask ourselves the question if it is a fact that in modern medicine it is essential for the Physician and Surgeon to have had through training in embryology and comparative anatomy if he is to be a successful teacher and an intelligent practitioner. We answer unhesitatingly in the affirmative.

The work is very carefully compiled and appears to contain many points of very useful information which are wanting in many of the recent text books such, for example, as the description of the development of the premaxillary bones in man. As long ago as 1879 Albrecht called attention to the fact that each premaxilla in man usually developed from two centres and thus is explained the fact that clinically we find, in cleft palate, there is a variation in the position of the cleft anteriorly; it may pass between the lateral and central incisors or it may pass between the lateral incisor and canine. Keith gives due prominence to this observation and points out its clinical bearing. The author favors the view regarding the connection of the developing Thyroid with the so-called thyro-glossal duct the lingual opening of which persists as the foramen caecum at the base of the tongue. He refers to the occasional persistence of portions of this duct forming cysts at the base of the tongue. Attention is also called to a fact, which the reviewer has noted clinically, that one might mistake a cystic bursa developing above the hyoid for a cystic thyro-glossal duct. The development of the mammary gland and a clear description of the lymphatic connections which it establishes are of value. The facts here, concisely summarised, are such as should be recognized by every surgeon who operates for mammary cancer. The author states that "Ectopia vescicae is still unexplained"; he advances the theory, however, that it is due to the arrest in the development of the body stalk towards the ventral aspect of the body thus preventing of the symphysis pubis and in addition the development of the uro-genital cleft above the genital tubercle instead of below it. The theory also is stated as to the possibility of this abnormal development being due to a dropsical condition

of the Allantois with subsequent rupture. As to the correctness of either of these theories, however, we have no proof.

The book is well illustrated by diagrams drawn by the author of similar type throughout, and this part of his work has been done most satisfactorily. A few diagrams are reproduced from other authors, but they are modified so as to conform to the general plan of illustration. All the illustrations are therefore of the same type; they are printed in black and white with clear outlines and suitable shading so as to present a series of figures which form an excellent guide to the meaning of the text.

We congratulate the author very heartily upon the production of a book which, as far as we are aware, has its counterpart nowhere, and we feel assured that it will fill a want felt by the teacher and the practitioner who are anxious to do their work in scientific medicine intelligently.

MISCELLANEOUS.

Mr. F. M. Tuckett has gone to England in the interest of Ferrol, or Ferroleum, and has opened an office at 60 Bartholomew Close, S. C. London, England.

IMPORTANT LEGAL DECISION.

Fairchild Brothers and Foster recently secured an important decision from the Court of Special Sessions in New York. A certain company in the above city had been selling another preparation of essence of pepsin instead of Fairchild & Foster's, ordered on the prescription. The druggist was fined \$50.

GASTRALGIA—ITS TREATMENT.

Gastralgia is, for therapeutical purposes, divided into two groups by Professor Saundby (*N. Y. Medical Journal*). The first group comprises those cases in which pain occurs independently of eating, and the second group, those cases in which the pain occurs after food is taken. The treatment of the first class consists of change of scene, a sea voyage or mountain air and abundant food at regular intervals. The palliative treatment consists of iron, quinine, arsenic, nux vomica and the mineral acids.

For the second class, the treatment is, rest in bed, milk and lime water in sufficient quantities—say an ounce every hour. A nutrient enema of one egg, beaten up in four ounces of milk, to be given every four hours. The amount of milk should be increased with improvement,

and if milk fails, from two to four ounces of lightly cooked minced meat may be substituted.

For the relief of the pain in both cases, Saundby gives morphia or heroin, but in a recent clinical report Professor Boone, College of Physicians & Surgeons, St. Louis, states that he finds one Antikamnia and Heroin Tablet (5 grains Antikamnia ; 1/12th gr. Heroin Hydrochloride) given as required, not only relieves the pain, but prevents its recurrence, much more satisfactorily than either heroin or morphine alone. In other respects he concurs with Professor Saundby in his method of treatment.

REMOVAL OF GUN-POWDER STAINS.

Dr. E. G. Corbett, of Hampton, Fla., in *The Medical World* of Philadelphia, Pa., Feb., 1902, remarks that Christmas day a boy of twelve filled a vaselin bottle with powder and exploded the same. I arrived on the scene about three hours after the accident and found the cornea and sclerotic of both eyes and the face literally blown full of powder. I removed a dozen or more flakes of powder from each cornea with a foreign spud ; also removed the powder from the sclerotic. Did the operation under a four per cent. solution of cocain. After the operation I used a fifteen per cent. solution of Hydrozone in the eyes. After removing the particles of glass from the face, I kept a cloth over it saturated with a fifty per cent. solution of Hydrozone. At the end of two weeks I used a saturated solution of boric acid in the eyes and painted the face twice daily with equal parts of Hydrozone and glycerin. The eyes are well and powder stains have disappeared from the face.

BOVININE IN SURGICAL PRACTICE.

T. J. Biggs, M.D., Sound View Hospital, Hartford, Conn., reports the following interesting case : Mrs. T., age 47, carcinoma of uterus. Entered hospital October 10, 1901, in a greatly run down condition. She was put on an absolute bovine diet until October 14th, when at one o'clock she was given a high rectal injection of bovine and salt solution, three ounces of each, and at two o'clock, under ether anaesthesia, I performed an abdominal hysterectomy. Just before the uterus was detached from the vaginal wall the patient showed considerable shock, and consequently the nurse was ordered to give her another high rectal injection of bovine and salt solution, two ounces each. She responded to this beautifully. The operation was completed by the closure of the abdominal wound, the pelvis being drained through the vagina. Patient was put to bed with the pulse weak and 112. She was given another

high rectal injection of bovine and salt solution, three ounces of each. In twenty-five minutes she was conscious, pulse greatly improved, being 100, and full in character. *No nausea, thirst or vomiting.* The second day the vaginal drain was removed, the wound and the vagina treated by injections of bovine, pure, employed t. i. d. Previous to every injection of bovine into the vagina, the cavity was washed out with borax solution. These injections were continued three times a day up to October 16th, when twice in twenty-four hours was deemed sufficient. She was now allowed a light general diet together with bovine. October 24th the stitches were removed and the abdominal wound found to be healed. From this time on her recovery was uninterrupted, and she was discharged cured, November 15th.

PEPTO-MANGAN (GUDE) IN ANAEMIA.

Dr. Hermann Metall, Med. Chirur. Central-Blatt, of Vienna, January, writes on the various anæmia conditions, such as are encountered in cancer, tuberculosis, chlorosis, and exhaustive diseases. According to his researches, iron cannot be replaced by alimentation. Iron medication is materially aided by the addition of manganese. The combination of iron and manganese, discovered by Gude, is one of the very best. It can be taken by all classes of patients; and it does not irritate the most delicate stomach.

He had prescribed Gude's Pepto-Mangan in a number of anæmic conditions, with very happy results. In one case of chlorosis, the red corpuscles increased from 2,480,000 to 5,000,000 in one month, and the hæmoglobin from 20 per cent. to 50 per cent. In another case of chlorosis, the corpuscles increased from 3,750,000 to 4,200,000; and the hæmoglobin 35 per cent. to 70 per cent. in six weeks. In another case, the corpuscles increased from 2,400,000 to 5,250,500; and the hæmoglobin from 20 to 50 per cent. in five weeks. In all these cases, the medical treatment was tablespoonful doses of Pepto-Mangan (Gude) three times a day. In all, 23 cases of anæmia were treated by Pepto-Mangan (Gude). Twelve showed a normal hæmoglobin per cent. in 14 days; five after 3 weeks; and five after 1 month. In one case, with bad heredity, there was only improvement after 2 months.

In cases of acute anæmia, following hæmorrhage, he found it to be a valuable remedy. Good results are obtained in such cases in a week. In cases of severe hæmorrhage, in connection with miscarriage, it yielded excellent results. It would thus appear that Pepto-Mangan (Gude) is a valuable blood-builder.

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A CASE OF TETANUS.*

By THOMAS WYLIE, M. D.

Physician, Toronto Western Hospital, Reported by G. H. Carveth, B. A., M. D., Surgeon, and Lelia A. Davis, M. D., Pathologist, to Toronto Western Hospital.

I. W. a girl of fourteen, unusually large and well developed, and previously strong and healthy, while playing in a garden stepped on the tooth of a rake with such force that it passed through the sole of her boot into her foot, making a wound of some depth. No physician was consulted and the foot was bathed and poulticed until the wound was healed.

On May 31st, three weeks after the accident, having in the interval shown no symptoms of constitutional disturbance, she began to complain of stiffness, at first in the jaws and afterwards extending over the whole body. The next day she had a convulsion. Dr. Wylie was called in on June 2nd and found the usual symptoms of tetanus: rigidity of the muscles of the jaws, neck, limbs, and abdomen,—the head partially retracted, angles of the jaws drawn downward, inability to change her position or to swallow, except fluids in very small quantities, frequent and very painful tonic spasms, hyperæsthesia of the whole body, especially marked at the point of the wound, sleeplessness and constipation. Temperature 102 pulse 120.

The following afternoon June 3rd, she was removed to the Toronto Western Hospital. Before the next morning, she had two very severe paroxysms, after consultation with members of the staff, it was decided to place her in an open tent on the Hospital grounds, where she remained while under treatment, (see photo). 10 c. c. of anti-tetanic serum were injected June 4th, and this was repeated on the two following days. An ice-bag was applied to the spine and continued until the temperature was normal. The usual anti spasmodic treatment was ordered. Cannabis Indica, discontinued in a short time, because of its causing soreness of the tongue, chloral hydrate, in 30 gr. doses, every four hours until the spasms became less frequent and severe, then night and morning for a few days. The patient however frequently refused both medicine and nourishment, and, after the first week, no medicine of any kind was given.

Nourishment consisted of milk, given, at first in very small quantities, through a glass tube. She was able to take solid food first on the 20th day of her illness, she was given all the cold water she could be induced to take.

The bowels were left quiescent for a week and then moved by enemas.

* Read before the Staff, Toronto Western Hospital.

The temperature became normal on the evening of June 4th, and, with the exception of a few temporary rises, remained so. The pulse varied between 80 and 100. Blood and urine normal. During the first few days she suffered much from the painful spasms, after which they gradually decreased in frequency and severity. She began to sleep better so soon as she was moved to the tent; and, after a few days, slept through the most of the night, and, at intervals, in the day-time. She was able to partly turn herself June 10th; and, when she left the Hospital June 24th, she was practically well.

An especial point of interest in the case is the unusually long period of incubation, 21 days, from 5 to 10 or 12 days being the ordinary limits



The Tent where patient was treated.

The rule appears to be—the longer the incubation period, the milder the course of the disease, and the more favorable the prognosis.

Another point of interest is the open tent treatment, which is opposed to the common idea of the necessity of the exclusion of light, draughts of air, and ordinary out of door noises in the treatment of tetanus. In this case the patient was more exposed to the light than in an ordinary room in the hospital, and no effort was made to protect her from the outside air.—

The results were entirely satisfactory, as there was a progressive improvement in the condition of the patient from the time when she was placed in the tent.

THE TREATMENT OF PNEUMONIA.*

By J. C. MITCHELL, M. D.

MR. PRESIDENT AND GENTLEMEN,—It is my privilege to introduce for your discussion a subject upon which it is difficult to find anything to say that will be new.

So much has been said, and much so well said, that "I am but a gatherer and disposer of other men's stuff."

The subject is like human love, as old as man, but always new, and always interesting; inasmuch as every case presents some phase or type differing from any other.

So varied has been the treatment that many cases have recovered in spite thereof, cases where "the remedy was worse than the disease", while many others have proved fatal where the management has been the most scientific and best approved.

Undoubtedly all present have had patients recover from the most severe attacks, in the most unfavorable surroundings, under most unsanitary conditions, and, vice versa, have had them succumb when the environment, the nursing, and the general treatment have been all we could desire.

We have been called to cases that, from our knowledge of the patients' constitutions, severity of the attacks, general appearances, etc., we have not expected recovery; yet, after a hard fight, such have been restored to health. Again, at our first visit, we have been most cheery, feeling we had a hopeful case to deal with, but, after a few days, some complication, such as an attack of heart exhaustion, altered entirely our sanguine feeling, and we have been compelled to see our best efforts under defeat.

Possibly in no other disease have we such extensive pathological changes, with complete restoration of the parts, as in pneumonia, nor have we any better instances of spontaneous recovery under certain conditions and circumstances.

As it is an acute specific fever caused by a variety of micro organisms, with a tendency to self-limitation, at first view the expectant plan of treatment might be considered the ideal one to adopt.

Unfortunately, cases do not all recover, and death may be referable to exhaustion of the bodily forces as a whole, or some of them in part, especially the heart, to violence of the invasion and crisis, prominence of toxæmia, failure of respiration, from the extent and severity of the pulmonary invasion, and excessive pyrexia, or the many possible complications.

So much depends upon constitution, severity of the attack, and complications, that we are not justified in strictly adhering to the expectant

* Read before the Ontario Medical Association, Toronto, June 4 and 5.

plan, but should place ourselves in position to anticipate by treatment all that tends to a fatal termination.

" Oft expectation fails, and most oft there,
" Where most it promises ".

Two points should be prominently in view before us: the exact nature of the seizure, and the constitution of the patient.

Two courses then are open to us, either to treat the disease specifically, or to enter the wider field of symptomatic treatment where we meet and anticipate the many indications to relieve distress and sustain life until the disease runs its course.

Our increasing knowledge of bacteriology, and the introduction of specific remedies, afford ground for the hope that we may speedily discover a means of combatting the causes of pneumonia, and cutting short the process as we now are enabled to do in diphtheria and some other diseases.

The increasing evidence of its microbic origin has placed it among those diseases to which the serum treatment is applicable.

The researches of Friedländer, Fränkel, Klemperers, Bros Washbourn, Townsend, Ccoledge, and many others, have at present made no further claim for sero-therapy than it may produce the earlier occurrence of the crisis, and modify the course of the disease.

We may say with Macbeth: " We have scotched the snake and not killed it ".

Many of us have tried treating the disease specifically by use of drugs, our ideas being to inhibit bacterial growth by rendering the blood a less suitable medium therefor, the principal drugs employed being quinine, guaiacol, carbonate and creasotal. My own limited experience with this method has been with the two former drugs, and the results have been such as to encourage me to persevere in this line.

A man cannot speak with authority upon the merits of a drug which he has used only twice, and yet, when so well defined a disease as that now under discussion behaves in an altogether abnormal way, in two consecutive cases, one must place some measure of importance upon the agent employed.

On Sunday, April 27th, began one case, typical in onset temperature 103°, pulse 100, hemorrhagic sputa, hurried respiration, dulness under percussion at base of left lung, with every other local physical sign of lobar consolidation; under guaiacol carbonate in divided doses of 48 grains daily, the temperature fell below 100, and the pulse below 90 before the 3rd day, and did not rise again, though the changes in the lung went through the customary procession. Most wonderful of all was the rapid-

ity with which the tongue became clean ! We were disposed to consider the course of the attack freakish !

On May 8th, the next case appeared in a man of 55, a classic onset complicated with delirium, even to involuntary defæcation. In the first 24 hours he received 30 grains of quinine, and was then placed upon guaiacol in the same doses as in the last case. History repeated itself, and the success of the treatment was as marked as before. On the 2nd day the thermometer showed 99.2, the 3rd day 101.2 and never afterwards did the fever reach 100. The tongue cleaned wonderfully, though every local sign showed the ordinary disease course. I quote our patient's own words concerning his general condition, " Those were good powders, every one seemed to help me ".

In both cases the drug was used early and in good doses. We have not passed judgment yet but are thinking.

" Some griefs are med'cinable ", so the distress and grief in this disease is amendable to treatment. In symptomatic treatment we not only treat symptoms as they appear, but endeavor so far as possible to anticipate those conditions which may arise to antagonize our efforts on behalf of the patient.

A very important indication is to spare, and freely support, the physical strength from the beginning, for the body is taxed far more by disease due to micro-organism than by that due to simple change of temperature or traumata. Particularly is this the case if the patients are weakly, debilitated subjects or alcoholics, with little power of repair or recuperation.

This is quite contrary to an axiom of an old physician of my acquaintance in my student days who said " Give me veratrum viride and the lancet and I defy inflammation ". He always attributed the passing of a patient to the happy hunting grounds which did occasionally happen, to " the poor constitution of the patient ", " that he had not been called in time ", or to " the will of High Heaven ", never once dreaming the treatment could be at fault. Of course vesication had to be freely produced in addition to those other *mild* remedies. The one thing that counteracted the injury due to such treatment, the patient was always given a liberal supply of whiskey.

Danger arises so often from enfeebled action of the heart, and deficient aeration of the blood, that our plan now is to maintain the patient's strength to the utmost possible extent and relieve symptoms.

In the first stages of pneumonia, venesection may be practiced in some selected cases where there is lividity and danger of asphyxia. It should, however, be used with great caution, for we have practically, in

the stage of engorgement, an intra visceral hemorrhage, varying in amount according to the severity of the attack from two to four pints.

Later on in the disease, when we have a loaded right heart, accompanied with dyspnoea and cyanosis, a moderate venesection would be rational treatment, and on this point we particularly hope to hear from some who have adopted this plan.

At our first visit to a typical case of pneumonia, our aim should be to make the patient as comfortable as possible and to fully grasp the situation in all its bearings. Place the patient in as good a position to fight his battle as his environments will permit, *i.e.*, as to room, bed, clothing, posture, ventilation, etc. Emphasize the great importance of perfect rest. The pain will depend upon the sensitiveness of the patient, and the amount of pleural involvement, and will usually be best relieved by a proportionate hypodermic injection of morphine, the smallest dose that will relieve being the best. I have never found occasion to use over one quarter of a grain, and generally found a sixth quite sufficient. Pain relieved the dyspnoea also disappears. If there be much fever a diaphoretic and diuretic are indicated; small doses of acetanilid with caffeine being very good to begin with as a diaphoretic. The condition of the bowels must be looked after in order to preserve gastric and intestinal digestion. I usually order calomel or blue mass to be followed by a saline. I endeavor to arrange the medicinal part of the treatment, to keep the patient comfortable, not lower vitality, or derange stomach. Only in exceptional cases is it necessary to order stimulants at first.

As to local treatment. I apply repeated sinapisms with cotton wool jacket, or hot fomentation, and do not object to an ice bag if available. I prefer the first mentioned, particularly where I cannot procure a competent nurse as so often occurs in the country. To the nurse I urge most strongly the great importance of attending to all the details of her duties, and again lay stress upon the necessity of perfect rest and quiet. I give the patient all the cheer and hope I can, and do not dilate upon or explain to him his condition, remembering:

“ From ignorance our comfort flows,
The only wretched are the wise ”.

The pain not likely to give much trouble after the first two days and after the hypodermic of morphine it is usually well controlled by small doses of pulv. ipecac. co., which also acts as a diaphoretic. If pain be not severe, I prefer small doses of acetanilid with caffeine as it does not derange the stomach. The febrile condition is usually quite sufficiently controlled, if we keep the skin moist. The dyspnoea may be relieved, or at least greatly benefitted by good ventilation.

At subsequent visits, I not only ascertain carefully the condition of the lungs, but I look particularly after the heart, and guard against any possible complications so as to anticipate danger, for "Trifles light as air are to the jealous confirmations strong as proofs of Holy Writ", and a patient's life may frequently be saved by attention to little things.

The general management, nursing, diet, and local measures, much as before; the medicines may be changed; usually our patients require a sedative cough mixture after second day, and after four days the diuretic and diaphoretic may be changed for an acid quinine mixture. I give stimulants as indicated, and strychnia for heart, particularly in alcoholics. When a man is stricken down with pneumonia it is good to be able to say,

"For in my youth I never did apply
Hot and rebellious liquors to my blood".

If I find the heart failing, I push the stimulant to as much as eight ounces per day, and strychnia is required. The latter either as liquor strychnia, in tablet form, or better still hypodermically.

For urgent dyspnoea and lividity, inhalations of oxygen, if it can be procured. This is one of the things we are debarred from using in the country, but we can have plenty of fresh air.

I always look upon delirium as a grave symptom, and it requires most careful attention; cold to head, good feeding, and intelligent use of alcohol.

For the insomnia with delirium we so often have in severe types of the disease, I usually try bromides and chloral, trional, sulfonal, etc., but in several severe cases I have had who were also alcoholics, I have found a judicious use of morphia give a comfortable sleep when all other remedies failed.

Although we no doubt would all prefer to have our pneumonias occur among the prohibitionists, at the same time I have had such a large percentage of my inebriates recover that that class need not despair and lessen their chances by an undue fear of death, for,—

"The sense of death is most in apprehension".

Unless the pyrexia is over 104° Fahr., I do not use anti-pyretics only in just sufficient amount to keep skin moist. If the temperature is about this point I use tepid and cold sponging, ice packs, etc., before resorting to the use of anti-pyretics internally.

Diarrhoea I always watch for, as it is a serious complication and must be controlled by suitable measures.

Of course, we never forget that the nature of pneumonia is to terminate with a crisis, and this may occur at any time from the 3rd to the 14th day, or even in very serious cases a still longer time may intervene,

In these long cases nourishment is urgently needed, and for this reason the stomach must be carefully guarded.

The crisis often makes a severe demand on the bodily resources, and both food and stimulants have to be administered very freely indeed, not only at the time but for some days afterwards.

Just at this time, when there is such a demand on the physical resources, we sometimes have complications appear one after another ;

“ One woe doth tread upon another’s heel,
So fast do they follow ”,

and our best efforts are in vain. In fact we may see this at any stage of of the disease.

When the crisis is passed in safety, reduce gradually the stimulants change the food slowly from liquids to that having more consistency but easily digested, change the medicines as indicated by state of stomach, and use expectorants as may be required.

If the lung does not clear up after the crisis, I find that it is as Mitchell Bruce says “ an unresolved pneumonia is usually unresolved pleurisy ”.

Convalescents must be treated as in all other diseases according to their needs.

Now, gentlemen, in closing this resume of my ideas on this most important subject, I would suggest the discussion be particularly along the following lines,—

1. Has sero-therapy been tried and been successful outside of Hospital practise ?
 2. Has the experience of any been such as to make him an enthusiast over specific treatment by drugs ?
 3. Have you had definite good or damaging results from venesection ?
 4. Has any one seen unfortunate results from the use of coal tar derivatives even where used in sthenic cases ?
 5. Is there any remedy in cardiac exhaustion equal or superior to whiskey and strychnine ?
 6. Does any one think the hot poultice has any advantage over the pneumonia jacket ? Is it an advantage to change the jacket at stated intervals ?
 7. Do we get beneficial results from vesication at any stage of the disease ?
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CANCER OF THE BREAST.*

T. K. HOLMES, M.D., Chatham.

SINCE the teaching of Halstead and others has led surgeons generally to adopt a very radical method in dealing with cancer of the breast, this disease has lost some of its terrors and a fair hope of permanent cure may be entertained in many cases. It is to present a report of three cases of this disease that I write this short paper, hoping this history may be of interest to the association.

The first case shows that even in an advanced stage a cure may be possible, and the other two cases the influence, positive or negative, of removal of the ovaries on mammary cancer.

Case I. Mrs. W. aet. 54 of good family history has had a large family and personally has always had good health until May, 1897 when she observed a small tumor in the left breast. It was hard and moveable and for three months caused little pain or inconvenience but after that time it increased rapidly in size and became very painful. In June, 1898, it had attained a very large size and the most prominent part of the tumor had ulcerated, showing destruction of the skin as large as a silver dollar. The pain had become severe and the loss of rest, from this cause alone, gave her a worn haggard appearance. On July 7th, 1898, I removed the breast and axillary glands after the method practised by Halstead, removing the pectoral muscles and all the tissues in the axillary space leaving the nerves and vessels completely bare. As a very large portion of skin had to be removed there was considerable tension when the sutures were tied and this upper part of the wound healed by granulation on that account. Three years and eleven months have elapsed since the operation and the woman has had no return of the disease and is in perfect health.

Case II. Mrs. K. aet. 55 years, has had two children. Father died at the age of 76 from pneumonia and mother at 72 from renal calculus. Three sisters and a brother are healthy. After the birth of her second child she had septicaemia, pelvic inflammation and plegmasia alba dolens in both legs. This sickness left her an invalid for a long time with swollen legs, pelvic pain and tenderness and inability. The uterus, when I first saw her, was fixed in the pelvis and there was evidence of extensive and dense adhesions of all the pelvic organs. This condition of invalidism continued about ten years, when she finally consented to an operation for removal of the tubes and ovaries, which I did on March 10th, 1892. There was a good deal of difficulty in the operation on account of the

* Read before the Ontario Medical Association, Toronto, June 4 and 5.

dense and extensive adhesions but she made a good recovery and her general condition was very much improved. During the winter of 1897-'98, she wrote me from Virginia, where she was then living, that there was a small tumor in her right breast and I at once advised her to consult Dr. Halstead, of Baltimore, but, this was not done and in April 1898 she entered the General Hospital at Chatham and on the 5th of that month I removed the breast as in case II. For nearly two years there was no return, then a small nodule appeared about midway between the ends of the first incision. This was excised by a southern surgeon and a few months later another growth and a part of a rib beneath it was removed by the same surgeon. Early in May of this year, she again came under my care at Chatham when I found a hard bluish mass firmly adhered to the ribs about midway between the ends of the primary incision, and as large as the top of our ordinary teacup. It was unmovable and painful and there was a small ulcerated spot at its centre. As the case seemed inoperable I advised treatment by the x-rays which I had known to prove beneficial in a case of superficial cancer. She is at present undergoing treatment in that way, but sufficient time has not elapsed to know with what result. This case is instructive as showing that, however beneficial removal of the ovary may be in curing mammary cancer, it did not in this case prevent the development of the disease.

Case III. Mrs. J. J. married and has had three children. She first came under my care in July, 1896, suffering from laceration of the cervix and perineum and inability to articulate distinctly on account of a partial paralysis that occurred a year earlier and a few days after the birth of a child. On July, 6th 1896, I repaired the lacerations and her health soon improved although her speech remained somewhat imperfect. In Sept. 1897, I detected a suspicious looking tumor in left breast, near the nipple, and on the 9th, of that month performed the Halstead operation. Fifteen months later, or on Dec. 12th, 1898, I removed a small nodule from near the scar of the former wound and similar nodules appeared and were excised on May 16th, Sept. 27th, and Nov. 1st, 1900, March 8th, and May, 26th, 1901. On July 26th, 1901, I removed a hard mass from the axilla and in doing so I found it necessary to exsect a portion of the axillary vein which was so involved in the growth that it could not be detached. On Aug. 12th, and Nov. 10th, 1901, several cervical glands were removed. Within the next six weeks numerous other cervical glands became involved and were so situated that further operation for their removal was deemed inadvisable. Knowing that some favorable results in such cases had followed removal of the ovaries, I decided to offer her this chance. She willingly consented, and on Jan. 6th, 1902, I

removed both ovaries and tubes. In a few weeks the enlarged gland began to diminish in size, the pain to abate and, at the end of three months, no vestige of either remained. At present, five months after the oöphorectomy, she is apparently free from the disease and in the enjoyment of good health. In this case, ten operations in all were performed for the breast disease, four of which were of a rather severe character, and it is to be hoped her courage and fortitude may be rewarded by what seems at present to be a complete cure.

KEMPFER V CONERTY.

BEFORE the Hon. Mr. Justice MacMahon, at Perth, Wednesday the 30th day of April, 1902.

This case was set down for trial in the spring of 1898, B. B. Osler, Q. C., for defendant and Watson for plaintiff. An adjournment was granted owing to absence of a medical witness for plaintiff. Following this was an argument in Toronto, regarding costs, which was decided in favor of defendant. Then in the fall of the same year the case again came down for trial, with the result that, after a three days fight, the defendant obtained a non-suit and judgment for costs. Appeal was made from this decision to the Divisional Court, where the plaintiff was granted a new trial and defendant ordered to pay costs to date. On advice of defendants counsel, the late B. B. Osler, an appeal was made from this decision to the Court of Appeal, where after a long delay a very nice decision was given. A new trial was still granted the plaintiff but a strong recommendation was made that the judge at the trial should take the case without a jury, also that all costs must stand until the final disposition of the case by the trial judge. The case was set down for new trial in the spring of 1901, but owing to the illness of Dr. King, who was a witness on the case on behalf of the plaintiff a postponement was obtained.

Again the case was on the list for trial at the Fall Assizes but was again postponed owing to illness of defendant. After this an argument in Toronto *re* request of plaintiff to alter order for adjournment—not sustained. Then on May last both parties appeared to be ready and the case went to trial with the result as shewn in the Judgment of Justice MacMahon.

JUDGMENT.

This case has been very thoroughly discussed, and the points have all been elaborated with great care by counsel on either side, with their

usual ability. No legal questions are involved and I have simply to deal with the facts.

The boy Thomas Kempffer, on the 11th day of September 1896, being then ten years old, fell from a tree and sustained a fracture of the radius, commonly known as a Colles' fracture. The height from which he fell is unknown, and he was unconscious when brought to his father's house. Dr. Bell, who occupies a distinguished position amongst the surgeons of the Dominion, and is connected with the principal hospitals in Montreal says that in the production of a Colles' fracture the force is almost always on the palm of the hand and the ball of the thumb. When the boy was brought home the defendant was called to see him and after examining the arm returned to his surgery to get the necessary splints to be used after the fracture was reduced. He then returned to the Kempffer house and after washing the boy's hand, he with the assistance of the two men, Jacobs and Hill, reduced the fracture and then proceeded to put the arm in splints. A question has arisen as to the size of the splints, and it has been urged that I should rely on the evidence of Jacobs and Hill as to their size in preference to the evidence of the attending surgeon. During Mr. Watson's argument I pointed out to him how often the man Jacobs said he did not recollect what took place, and since then I have procured from the stenographer a statement, taken from his evidence, as to what he did *not* know. He said "Before the doctor came I looked at the hand or wrist I suppose; I did not take much notice to it. Did not notice marks on hand. Did not notice where the material for bandages came from. Did not notice whether the splint differed in width throughout its length. Did not notice whether the doctor had other splints there. Did not notice whether much or little batting was put under splint. Could not tell whether anything was put between the thumb and hand. Could not tell if strings were put around the bandage. Did not know anything about the boys color; did not watch to see if it changed. Supposed the boy was unconscious; does not know. Does not know whether the arm was washed before the boy became unconscious or not. Did not see where the splints came from. Could not tell where the batting came from. Did not notice whether a wad of batting was put in the hand. Could not tell whether the batting covered the whole hand before the splint was put on. Thinks the bandage was opened up once, but did not notice whether more batting was put in. Did not notice the width of padding placed in the hand."

It struck me at the time he was giving evidence, that either he was not an observant man, or that he was occupied in the duties assigned to him by the doctor of looking after the chloroforming of the patient;

that when one comes to consider the position occupied by the defendant as a surgeon in attendance on a patient with an injury of the nature described, and feeling that his reputation as a physician and surgeon was at stake, and that the greatest care and skill that he possessed should be given in dealing with the injured arm, I could not come to the conclusion that these men who were not interested in the kind or size of splints that were required for the purpose for which the doctor was called upon to use them, are not likely to be correct in the evidence they give either as to the size or the material. The doctor says that he had a number of splints in his office, some of which he made himself, and others that he had purchased. He states that the splints were about two and a half inches wide, and that they were both of wood. The witnesses Jacobs and Hill stated that the splint was put on the back of the arm was of pasteboard, and that the one placed on the front of the arm and palm of the hand was of wood, and only an inch and a half wide at its widest part. Mr. Hill is connected with the family of the plaintiff by reason of his having married Kempfffer's sister, and while I do not say that he is not desiring to state exactly what is true, he has no doubt heard the subject discussed from Kempfffer sources, and I do not regard his statement under the circumstances as being entitled to the credit that I give to the evidence of Dr. Conerty, and I find that the two splints were of at least the width of two and a half inches. With regard to the course adopted by Dr. Conerty in putting on the splints I think the evidence of Hill strongly supports the statements made by the defendant that every precaution was taken as far as the hand was concerned to give it sufficient padding to prevent any injurious results arising from the use of the splints. Dr. Conerty said that the splint was padded with batting, and that he had put a ball of wadding in addition to that padding in the palm of the hand, and that the splint covered the whole of the palm down to the metacarpal bones, and that the hand was well filled with padding. As I say, he is confirmed in that statement by Hill, who says, "There was batting on the palm of the hand under the splint, and a little under the splint on the front of the arm. He made a change and loosened the bandage and put some cotton batting under the splint." This shows that after bandaging had proceeded to a certain extent, the doctor, thinking it advisable to add some additional batting, opened it up and put in an additional quantity of batting in the palm of the hand. It was urged that the splint went down to the end of the fingers. I think Mr. Watson properly abandoned that, as Hill himself said, and Jacobs said, that the splint only went as far, as I think he stated, to the end of the palm.

A question has arisen as to the manner in which the bandage was put on the arm. Most of the surgeons say that the proper course is to

commence at the bottom and bandage upwards, but they all say that it is immaterial in which way it is done, so long as there is no undue pressure of the bandage on the splint, so long as there is no pressure that would prevent free venous circulation. Dr. Conerty says that he did not adopt either of these methods. He commenced in the middle of the splint with the bandaging and proceeded to the top of the splint and then down to the middle of the hand. There was a good deal of evidence given by Jacobs and Hill as to the position in which the thumb was when the hand was bandaged. They say that it was bent in on the palm of the hand, and that that was the position in which the surgeon bandaged it. Dr. Conerty stated that he adopted the course sometimes adopted in cases of this kind, and bandaged the thumb on a line with the index finger. Most of the surgeons who were called both on behalf of the plaintiff and for the defendants say that it is an unobjectionable course, but the majority of them prefer the other method. I think one of them, Dr. Sheppard, said he had heard of it, and he knows that the system is spoken of in the books on surgery. However, they all concur in stating that unless the bandage was so tight as to cause pressure on the thumb and bring it in, that no evil results were likely to follow or should follow from the treatment.

The splints were allowed to remain on the arm for some twenty-three or twenty-four days. When the splints were removed it was found that there was a complete knitting of the bones of the arm, and that with one exception, no trouble was expected to arise from the condition of the hand. The plaintiff, or his mother or father, do not complain of the condition in which the arm which was fractured was found when the splints were removed. The result was all that could be desired. It is as to the condition of the palm of the hand at the ball of the thumb. The doctor says that when he saw the boy first there was, according to his observation, a slight swelling, and some redness in the vicinity of the ball of the thumb, about the size of a twenty-five cent piece, and it was stated that the injury was situated in a place where it was likely to have been the result of the impact when the boy fell. That is the place likely to be injured when a Colles' fracture takes place. Dr. Conerty did not apparently regard it as at all serious. Perhaps there was no indication that there was any great injury to the hand and with that idea he treated the hand as if no serious result was likely to follow from bandaging it in the manner stated. When the splints were removed it was found that in the region of the ball of the thumb where the injury was caused, there was a deadening of the tissue and a cicatrix has formed, and the doctor finding that, took upon himself, as he was obliged I think to do under the cir-

cumstances, the treatment of the thumb so as to bring it back if possible to its normal condition. He thought that the necessity for an operation might be avoided by a massage treatment. Dr. Sheppard, Dr. Bell, and I think most of the surgeons with the exception of Dr. King, say that while that condition of the thumb existed it would be improper to perform an operation, and Dr. Bell pointed out that one of the serious objections to operating at that time was the probable existence of micro-organisms, and if the operation was conducted while these were in existence in the hand, that it might result disastrously to the patient. He considered that the hand should be thoroughly healed before an operation was attempted, and I find from the evidence before me that that would have been the proper course to pursue. Now the healing was effected by the last of December, or first of January, and the doctor thought that by constant massage the necessity for an operation might be obviated. The mother of the boy says that the defendant endeavored to move the thumb and did move it slightly; that the motion caused pain, but notwithstanding that, Dr. Conerty thought that by continuous use of the massage treatment the thumb would come all right and a perfect cure effected within six to twelve months time at the latest. On the 4th of October, 1896, the doctor removed the splints, and he saw the boy again three days afterwards on the 7th of the month. Between the 7th of October and the 16th of November, although he had been asking the mother of the boy to bring him every day, or every other day, to his surgery, she had neglected to carry out his instructions. After that he only saw the boy twice during December, on the 2nd and the 7th, and then in January he saw him five times, on the 16th, 17th, 20th, 28th and 30th, and four times between the 2nd and 9th of February. He saw nothing of the boy at all until June, when he supplied him with a plaster cast for use on his hand. The cast was produced here, and from its appearance, if the boy had been using it, the thumb would when placed in the cast be some distance from the index finger, and he (the boy) said he had been using it from time to time until he brought it back to the doctor's office in August and left it there, stating to the person in attendance that he used it as a paddle when he was out swimming.

Now, having regard to the treatment Dr. Conerty had prescribed, which as he told Mrs. Kempffer could only be carried out by the boy being brought to his surgery for treatment, one cannot say that the present condition of the thumb is owing to any want of skill on the doctor's part. Whatever neglect there was, was not his neglect, and from the evidence of Mrs. Kempffer herself it is quite apparent that the doctor was finding fault with her for not making the boy keep his appointments

in going to the surgery for treatment. That is borne out also by the evidence of the housekeeper, Mrs. Hunter, who says that she was present on one occasion when Mrs. Kempffer brought the boy there, and that the doctor was much dissatisfied with the condition in which the boy's hand was, and told Mrs. Kempffer that no progress towards a cure could be expected owing to the neglect of the father and mother in seeing that the boy came regularly for treatment. The findings I have made exonerates the defendant from the charge of a want of skill or care. The reduction of the fracture was perfect, and the condition in which the thumb is now found arises from want of care and attention on the part of the parents of the boy, and of the boy himself in not submitting to and following out the defendant's instructions.

The action will therefore be dismissed.

THE ROLE OF EDUCATION IN THE DEVELOPMENT OF SELF CONTROL.*

W. H. HATTIE, M.D.

Medical Superintendent, Nova Scotia Hospital.

EDUCATION, of course, is not to be considered as limited to the formal teaching of the schools. It is unnecessary for me to say that very much the larger and much the more important share of the practical knowledge which a man gains is acquired wholly apart from the schools. Nevertheless the value of proper instruction and of suitably graded instruction in the schools is beyond estimate, and the purpose of my paper is largely to ask if the system of education at present very generally in vogue takes full cognizance of the possibilities of the public school in the development of a certain very important trait of character.

It must be expected that the old proverb "many men, many minds" will apply to the question of education just as to any other debatable subject.

There are many thought to be good thinkers, who cannot see that the educational system of to-day is an improvement upon that of say a half century ago. Many accord with Herbert Spencer in his contention that, from a practical standpoint, a scientific education is of much greater relative value than a literary one.

And the kindergarten method, and various systems somewhat similar to it in conception, have each their enthusiastic advocates. With

* Read at meeting American Medico-Psychological Association, Montreal, June, 1902.

all this variety of opinion, however, the plan which finds most general acceptance still is that system which has noted the need for changed methods in education in correspondence with the changed conditions of life brought about by recent discovery and recent advance, and which being the "survival of the fittest" must be supposed to suit the requirements better than any other mode which has yet been suggested.

It is, nevertheless, occasionally argued, and argued by men whose opinion is well worthy of consideration, that our present day educational methods tend to unfit men for the practical pursuits of life. It is stated that too many subjects are attempted, that thoroughness is rendered impossible on account of this multiplicity, and that in consequence a habit of carelessness is encouraged. Moreover, the claim is urged that a liberal literary training has not only the effect of rendering attention to business affairs distasteful to the average mortal, but that mental pre-occupation naturally resulting from wide learning prevents that entire devotion to business which is essential to success.

Exceptions there are, of course, for every one can point to men who combine singular business ability with broad culture. Such men are, however, unusually endowed and it is in but a small proportion of our successful men of business that literary talent is conspicuous.

It is not sufficient contravention to this argument to assert that a business life is not the ideal life; that true happiness does not follow the getting of sordid gain; and that mankind would be much the happier as well as the wiser if men attended more to the cultivation of the mind and less to the accumulation of wealth. However much one may sympathize with such a sentiment, the plain fact remains that the majority of people prefer wealth to culture, although there are undoubtedly many, who earnestly strive to attain both. And inasmuch as we have to deal with the majority, this fact must be faced, and dealt with in a reasonable spirit.

Now to the alienist this matter is one of practical interest. The strenuous efforts which many conscientious people put forth to "broaden" their minds is, far too often, a direct offence to physiological law.

The mental capacity of most men is sharply limited, and the capacity for an intelligent and well-thought-out interest in many diverse things is likewise definitely circumscribed. The attempt to keep well informed sooner or later brings on a condition of fatigue.

The individual's power of concentration lessens, the attention becomes enfeebled, and the control over self diminishes in proportion and thus the broadening influence of a liberal education, so ardently desired by many an honest soul, is entirely missed, and definite harm is accomplished.

The deduction is sufficiently plain. Instead of urging to greater effort the pupil who is beginning to realize in its full meaning that "much study is a weariness of the flesh" his case should be given special consideration and such restrictions should be put upon the quantity and quality of work required of him as might seem necessary as a preventive of overstrain.

All who have to do with the insane know how striking a feature in many cases, is a loss of the power of self restraint. Some even go so far as to consider insanity as but a manifestation of the loss of self control.

Thus it is said of Pinel that the first question addressed to a new patient was always "Have you suffered vexation, grief or loss of fortune"?

It was his firm conviction that painful emotional states play a very important part in the causation of mental disorder. But such states are common to all men, and it is only in those who are not properly schooled to the control of them that disaster is occasioned.

Putting the matter in another way, Clouston declares that "sufficient power of self control should be the essence and legal tests of sanity, if we had any means of estimating it accurately." And, were it necessary, I could quote many other authorities to the same effect.

In this chapter on growth of character, Oppenheim contends that in education one great factor has been forgotten, and that is the youth's knowledge of himself. He should not only be made familiar with the conditions and requirements of a business or profession, but should "have an equally thorough training for the vocation of living" and Donaldson declares that "the act of living is the most important natural educational process with which the human body has to do." These seem like reasonable statements, but their full meaning is not apt to appeal to one at first thought. Consider them in connection with a quotation from Maudsley :

"It may justly be questioned whether the whole system of education at the present day does not err on the side of dangerous indulgence no doubt such harshness and neglect as might be likely to repress cruelly a child's feelings and to drive it to take refuge in a morbid brooding, or in vague and visionary fancies, would be a great wrong, but a foolish indulgence, through which it never has infixed in its nature the important lessons of renunciation and self-control, is not less pernicious. Can it be wondered that persons whose minds, when they are young, have never been trained to bear any unwelcome burden, should break down easily into insanity under the strain of severe trials in later life"?

"The aim of early education ought to be sound intellectual and moral discipline rather than much learning of any sort; to fill a child's mind with details of knowledge in order to make it a prodigy of learning is

likely enough to prepare for it an early death or an inebile manhood ; but nothing can be better than the careful fashioning of its intellect into a trained instrument by which knowledge may be acquired readily, and with habits of accuracy, and the formation of a stable character which, through the constant practice of self denial obedience, self control, shall embody those lessons of a good moral experience which the events of later life will not fail to enforce rudely."

Such being the opinion held by so high an authority upon the value of proper self-control, does it not seem eminently right to make every possible provision for a full development of this trait ; which is undoubtedly of much importance in the " Vocation of living " ? and inasmuch as perhaps the greatest amount can be accomplished in this direction during the earlier and more impressible years of life, it does seem to me that the school course, which is so important an element in the life of the child and the youth, should be modelled with a view to attaining this end. Is it possible that we may not reach to that " best education " which, according to Maudsley " would be the strongest barrier against mental derangement, which it would be possible to raise ? "

Now while it is easy enough to dream of results, it is not so easy to suggest methods which will give us the results we seek. Nevertheless there are a few matters worthy of reference which may possibly be indicative of the direction our quest should take.

As to the effect of formal education upon the brain cells, we are without definite information. We know that the cells are already formed and are numerically complete at birth, and that any change effected thereafter is only in the direction of modification—not of multiplication. School training however, strengthens formed structures and arouses dormant elements to further growth and organization, and the importance of this can scarcely be over estimated. Thus Donaldson asserts : " The intensity with which any form of exercise is carried on during the growing period leaves its trace, and the absence of it at the proper time is for the most part irremediable. Thus any lack of early experience may leave a spot permanently undeveloped in the central system—a condition of much significance, for each locality in the cerebrum is not only a place at which reactions, using the word in a narrow sense, may occur, but by way of it pass fibres having more distant connections, and its lack of development probably reduces the associative value of these also."

Notwithstanding our lack of positive knowledge of the influence of educative processes upon the development of the central cells and in spite of our ignorance as to the relative order of development of the cells

engaged in the intellectual processes, sufficient data have been accumulated to enable very competent authorities to venture certain hazards. Thus Professor Patrick of the University of Iowa, argues strongly against the methods of teaching now in vogue in the primary schools. Both upon anthropological and psychological grounds he condemns the use of the reading book—the spelling book and the copy book by children under, say, ten years of age. Man has only recently become a reading and writing animal, and to quote Patrick's own words "It will demand a considerable maturity in the child before he is ready for that which has developed so late in the history of the race. The language of the child, like that of the primitive man, is the language of the ear and tongue. The child is a talking and hearing animal. He is ear-minded. There has been in the history of civilization a steady development toward the preponderating use of the higher senses, culminating with the eye. The average adult civilized man is now strongly eye-minded, but it is necessary to go back only to the time of the ancient Greeks to find a decidedly relative ear-mindedness. Few laboratory researches have been made upon the relative rapidity of development of the special senses in children but such as have been made tend to confirm the indications of the "culture-epochs" theory, and to show that the auditory centres develop earlier than the visual."

Another criticism of prevalent teaching methods is that of Oppenheim. I quote him as follows: "One must keep in mind that the faculty which governs mathematical computation is located among the higher centres in the cerebrum; that this part of the brain is among the latest to attain maturity; that therefore in childhood it is in no condition to put to a strain. Whenever a scholar at this age is forced into attempts to use this faculty, a process similar to any other sort of exhaustive work results. One can the more easily understand the inevitable outcome from a knowledge of the fact that the nerve cells of children being more or less in a state of unstable equilibrium, are easily exhausted, so that a consequent nerve poverty must show itself. Thus such children receive no permanent value from studies in mathematics, simple though they be; and what is more, if these studies were not begun until greater maturity—say at least ten years of age—not only would a vast amount of nervous wear and tear be saved, but also the children would learn as much in one year, as they formerly, under the present adverse conditions and methods, learn in five. The time thus saved might be profitably employed in strengthening both mind and body."

Now, if there is anything of real merit in these opinions, is there not need for certain reorganization of present-day methods? Surely the im-

position on the child of studies for which he is neither physically or mentally equipped cannot but be followed by disastrous consequences. Not only is there energy wasted and time lost, but it is also certain that the development of self-control is not encouraged by putting the immature brain cells to such unnatural strain as will almost inevitably exhaust them. On the contrary, it is reasonable to suppose that injudicious forcing may have the effect of causing irretrievable injury in this respect.

Of even greater importance than the curriculum is the teacher. A rational system of education would require as high a standard for teachers of elementary classes as for those of the advanced classes. There is infinitely greater opportunity to influence for good or evil, the pupils in the primary department than those in the advanced grades. Much greater damage may possibly result to the very young child, from the imposition of unsuitable tasks, than to one whose brain cells are more fully developed, and consequently more stable and less easily overtaxed. And at that period of life when imitativeness is the characteristic of the child, when, in fact, education practically depends upon his imitativeness, it is of the utmost importance, from all points of view, that the teacher should combine every good quality. It is very necessary, also, that the teacher should have a very good idea of the psychology of childhood and should have intimate knowledge of the physiology of this period, as without this knowledge it is impossible for the character of the teaching to be suited to the capacity of the pupil.

And yet how very few of our primary school teachers have any such qualifications. As further argument that teaching in the primary years should be of the highest order, it is perhaps scarcely necessary to refer to the fact that much the larger number of pupils derive all their teaching from the lower grades, and that comparatively few come under the influence of the teacher of the higher grades.

Another fact which is commonly overlooked is that the restraining or inhibitory function is the last to develop, which, as Oppenheim points out, is "chronologically correct, for a restraining force has no reason for its existence until the energy which it is meant to restrain is really present." And yet this is a matter of no small importance, inasmuch as, however well intended, illtimed attempts to restrain children cannot meet with the desired response. Rather do they tend to make the child unhappy and irritable, and at the last are very likely to defeat the very end for which they were intended.

It is too much to expect (save in individual cases) to be able to get right to the child's home life and direct environment and the influences to which he is subjected there. Could we do so, a tremendous good might

be accomplished, for undoubtedly the greatest power in the moulding of character is the atmosphere of the home. But our inability to reach so far into the circumstances which make character only serves to render it more imperatively our duty to see that such of the nurture of the child as we can influence is of the best.

Self control is not only a necessary quality to success in life; it is not only a very potent agent in the prevention of mental disturbance, but it is also a very important factor in determining recovery from an attack of mental disease. Therefore, to us as alienists, the question of the development of this trait is one of special and practical interest. For this reason we should not fail to exercise ourselves in behalf of any reform in present methods, which might possibly have an effect in bettering the development of the brain cells, and in thus rendering the individual less susceptible to disorder of the mental faculties. It is our plain duty to strive in every possible way to eliminate the causes of mental disorder. Here, it seems to me, is a legitimate field for the practical application of knowledge which our position as alienists presupposes us to possess. And at this present time, when the leaders in educational matters are, as I know them to be, striving very earnestly to make their methods meet the demands of rapidly changing circumstances, we have an unusual opportunity to use our influence in modifying requirements in accordance with our ideas of what those requirements should be.

Smallpox and Vaccination.

The number of the *British Medical Journal* for July 5, is devoted to the important subject of smallpox and vaccination. It is shown that smallpox appears to become epidemic in a small scale every four years; and pandemic every thirty years, or so. A careful study of the methods of spreading the disease makes it clear that the chief governing factor is personal infection. It is also made clear that, to secure the full advantages of vaccination, re-vaccination should be made compulsory. Ample proof is advanced to show that where re-vaccination has been made compulsory, smallpox has been stamped out. Germany, Italy, Hungary, Roumania and Japan have compulsory re-vaccination, and Britain must fall in line. It is also urged that as vaccination is compulsory, the supply of vaccine should be under direct government control. This would ensure purity and would tend to give the public confidence. Further, it is shown that with proper care the complications can be reduced to a minimum.

THE MANAGEMENT OF THE VARIOUS FORMS OF NASAL OBSTRUCTIONS.

BY PERRY G. GOLDSMITH, M.D., C.M. Belleville.

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(Continued from July *Lancet*.)

(b) *Cases of enlargement of the entire osseous structure of the inferior turbinated body.*

Crushing outward of the bone may give a very satisfactory result in some cases, but, in doing so, the septum must not be used as a fulcrum. Here, too, the spokeshave may be the only means of securing sufficient room. Repeated cauterization of the mucous membrane rarely gives the necessary space. Partial turbinectomy, if the enlargement be localized at either extremity, may alone be sufficient. Some writers cannot condemn too strongly anything like complete removal of the turbinated body. I do not approve of it, except in very rare cases, when the operation is not only justifiable, but demanded to secure the proper space. As a matter of fact, one cannot remove the entire bone with a spokeshave; and, when he has removed as much as the instrument will engage, he will be surprised to find how much regeneration takes place in a few years. Dr. Abercrombie, Assistant Surgeon at the Central Throat Hospital, examined over two hundred cases, some years following the removal of the inferior turbinal, and he found that a surprising regeneration had taken place, while those few who had a dry naso-pharynx, as a result, much preferred this to the continual nasal obstruction. The operation has been spoken of as having caused more misery than any other nasal procedure. While there is certainly good ground for such a statement, the reason is that, being new and the immediate results good, too many performed it, when less radical measures would have been sufficient. In the partial anterior turbinectomy cases, we should be careful about making our posterior segment too broad, otherwise a partition will appear, dividing the inferior meatus into two parts. Slight trimming with a pair of nasal scissors, or cutting forceps, will obviate this. In any case of turbinal hypertrophy, any accessory serious mischief must be corrected, before operating, as it alone may be the cause of the hypertrophy. In the more radical turbinal operations absolute rest in bed is imperative, as secondary haemorrhage is not at all infrequent. Oil sprays, or mild antiseptic, alkaline lotions, are not only healing, but very agreeable to the patient. Plugging causes discomfort and invites haemorrhage.

(4) *Nasal polypus*.—I do not propose entering into any discussion on malignant growths of the nose, or naso-pharynx. In the *Practitioner and*

Review, I cited a very typical case of primary sarcoma of the right nasal fossa, causing nasal obstruction, frontal sinusitis, and orbital phlegmon. Polypi are one of the most common causes of either persistent, or occasional, nasal obstruction. The diagnosis is usually easy, though one often finds an unsuspected polypus, after he has removed some septal spur, anterior to it. Polypi may practically be said to always arise from the middle turbinal region, and, according to Grünwald of Munich, is usually associated with some accessory sinus disease. The treatment is by snare, or forceps, combined, or separate. When the polypi are numerous, one must have a number of prepared snares available, so that no delay is caused by fixing the wire, or through blood obstructing the view. One snaring and subsequent careful cauterization of the base of the growth may be all that is required; but there are many cases in which the polypi have existed for a long time, and are very numerous, that nothing short of thorough curettage of the anterior and probably middle ethmoidal cells will suffice to prevent recurrence. Frontal sinus, or maxillary antrum empyema, must receive appropriate treatment also. It should not be forgotten that nasal polypi, in old people, or people past middle life may take on a malignant nature, bleeding easily, recurring rapidly, and possibly associated with impaired health, loss of sight, and with bone enlargement. After removing polypi, Mr. Lennox Browne favors repeated cauterization of the area, and, in many cases, spirit sprays. One must not mistake the rare occurrence of a meningeal sack for a polypus. In doubtful cases, careful aspiration of the contents of the sack and chemical examination will suffice to differentiate. Polypi projecting, or growing, in the post nasal space, may be engaged from the nose with a snare, assisted by the finger in the naso-pharynx, but, as a rule, they are best removed by forceps introduced from the mouth. In very rare instances is it ever necessary to split the soft palate, and then only for very large fibro-myoma. A patient who is subject to nasal polypi should consult a rhinologist, at intervals, so that any budding growth may be attacked early, even before symptoms are manifested.

(c) *Obstruction in which both sides are concerned.*

In some cases both the septum and the outer wall of the nasal fossa are at fault. When they are in contact ulcerations and adhesions, synechiæ, occur. These conditions are fully considered under the other divisions of this article.

(d) *Obstruction due to Foreign bodies—Rhinoliths.*

It is not uncommon to find children with obstruction in one nostril, associated with a unilateral foul nasal discharge. In the majority of

these cases, some foreign body has been introduced while at play, and forgotten. I saw a case recently, presenting the above history, where a piece of cork had remained in a child's nostril for four, or five months. Removal with forceps is usually easy, though crushing the mass is sometimes necessary before it can be removed. General anæsthesia is desirable, in children, owing to the fright caused by any instrumental manipulations. An alkaline spray, or mildly antiseptic ointment, is all that is necessary. Should there be ulceration, synechia must be prevented if possible.

III. OBSTRUCTION DUE TO CAUSES SITUATED IN THE NASO-PHARYNX.

(a) Congenital occlusion is very rare. It will, when present, prevent the good results from removal of adenoids.

(b) Titroma benign neoplasms.

(c) Adherence of the soft palate to the posterior wall of the pharynx.

These cases are not uncommon. Syphilis and caustic applications are the usual causes. A case occurring in my practice is somewhat typical. A. D. age 45 consulted me for inability to breathe through his nose. He had, when a child, a very severe attack of what was called black diphtheria. For this he had repeated applications of caustic (probably nitrate of silver). Since this he has never been able to breathe through his nose. Nothing abnormal could be seen by anterior rhinoscopy, but, on inspecting the pharynx, the soft palate was seen to be adherent to the posterior wall of the pharynx. A very small opening, however, existed, leading into the naso-pharynx, as a weak permanganate solution, injected into his nose, could be seen trickling down through this hole.

HYPERTROPHY OF LUSKA'S TONSIL-ADENOIDS AND MORBID CONDITIONS SIMULATING ADENOIDS.

(a) Diminutive choanæ ;

(b) Low vault of the naso-pharynx ;

(c) Paresis of soft palate and pharynx ;

(d) Vomerine crest ;

(e) Di-tortion of vertebral column ;

(f) Retro-pharyngeal abscess ;

(g) Enlargement of retro-pharyngeal lymphatic gland ;

(h) Hypertrophy of palate, tuberosities ;

(i) Webs and neoplasms.

With the exception of septal, or turbinal thickenings, adenoids may be considered as the most common cause of nasal obstruction, and, in children, up till puberty, with, or without, septal deviation, are practically

the almost invariable cause. Adenoids, strictly speaking, are physiological structures, which tend to atrophy at puberty. They may, or may not, be associated with enlarged faucial tonsils. Very frequently, adenoids exist with no enlargement of the tonsils; but enlarged faucial tonsils are almost invariably accompanied by adenoids. I have never seen a case of enlarged faucial tonsils in children, or young adults, without finding sufficient tissue in the naso-pharynx to require removal. My observation on this point are at variance with many good writers. It is, however, only with those cases in which there is an impediment to nasal respiration that my paper deals. The diagnosis is usually easy. In cases when the inferior meatus is quite roomy, one may, as Wishart says, make a diagnosis from the anterior nares; but I cannot say that I observe acutely enough to do this, except in a very few cases. The post-rhinal mirror usually gives us our diagnosis, if it be intelligently used by one who is constantly using the instrument. Those who use the instrument only occasionally, explore but little of the post-nasal space. Digital exploration, rendered less disagreeable by a weak cocaine spray to the nasal-pharynx, gives one a much better idea, not only of the situation of the mass, but the consistency of it, as pulpy, fibrous, etc. A rule often given is that we find adenoids in that case, where the finger passed, *gently* into the naso-pharynx, comes away tinged with blood. It is obvious in the tough, fibrous cases no such rule will hold good. Adenoids may exist in fairly large amounts, causing persistent post-nasal discharge, and deafness, with or without discharge, and yet cause very slight impairment to nasal breathing. Again, a somewhat small mass of adenoid tissue may, in cases where there is a low vault of the naso-pharynx, enlarged pharyngeal lymphatic gland, or prominence, or projection forward of the atlas, cause nasal insufficiency. I have one case of the latter, and have noticed others in the practice of Dr. Dundas Grant. Sometimes the facial expression, and excoriation of the external nares, alone, almost positively diagnose the case.

A case, showing an exception to this, occurred in a youth, sent me, by a fellow practitioner, for nasal obstruction, probably from adenoids. This facial expression was markedly like that seen in adenoid cases, and a mental diagnosis of adenoids was at once made. On examining his naso-pharynx, I was surprised to find the posterior nares entirely filled with a large hypertrophy of the posterior ends of the inferior turbinated body. In children, with even a small amount of lymphoid tissue in the naso-pharynx there may be considerable interference with nasal drainage; and, owing to the irritation caused by the retained secretions, and oedematous condition of the nasal mucous membrane ensues. This is an instance in which the cautery is frequently used, when the naso-pharynx should be treated.

The *treatment* is invariably operative.

In patients, whose constitutions are much impaired, it may be advisable to tone up the system for a time ; but, if the nasal obstruction be very marked, deficient aeration may be the cause of the debility, and no delay is justifiable. A mild eucalyptol ointment, used in the nose for a few days previous to the operation, enhances good results.

A great deal has been written about the anæsthetic in adenoid operations. The anæsthetist has, however, been too frequently neglected. A good anæsthetist, who has had considerable experience with anæsthetics in connection with throat work, is as invaluable to the operator as a good gag. To my mind, the ideal method, or system, is that practiced at the Central London Throat and Ear hospital, where nitrous oxide gas is administered in a sitting posture, in all cases over three years of age. There are two essentials, however, an expert and rapid operator, and a competent anæsthetist. When one realizes the number of adenoid operations done in this admirable institution, and sees, as I have seen, the entire absence of any dangerous complications, as well as the thoroughness with which the growths are removed, he wonders that any other anæsthetic is ever used. I examined nearly all the adenoid cases that were operated on at this institution within a week, or two, following the operation ; and, in but very rare instances, would there be otherwise than a complete removal, and an excellent result. Outside of some of the larger cities in Canada, and only occasionally in them, gas is the exception. I think chloroform and the A C E. mixture are usually chosen. Ether tends to cause more hæmorrhage, or post operative-œdema of the lungs. Chloroform anæsthesia should not be so deep that the laryngeal reflex is lost, lest blood, or adenoid tissue, get into the larynx, as, the sensation being lost, they may not be coughed up. The position of the patient varies. Some prefer to operate with the head hanging over the table, others with the patient on his side. I prefer the patient on his right side, the left knee well-drawn up, the right arm behind, the patient, at the moment of the operation, being on his right breast, and face on the right side. Some authorities advocate removing adenoids without any anæsthetic whatever. If these operators do the operation thoroughly, it must cause a great deal of unnecessary suffering ; and greatly increases the shock of the operation, which is sometimes, even with an anæsthetic, alarming. Cocaine 15 per cent may be used to deaden the pain of the first sweep of the curette, but my experience with cocaine is very unsatisfactory, so far as complete removal of growth is concerned.

The instruments consist of forceps and curettes of various kinds. In quite young children, and in those where the mass is quite soft, one may

remove all with the finger nail. The instruments I am in the habit of using are Golding Bird's curette and Jurac's forceps, modified by Jakins. The growths are accurately located by palpation ; and, in most instances, the forceps are used to remove the larger amount. Forceps, must, however, not be abused, as one may easily take away the posterior edge of the septum, which the experienced operator readily notes, before any damage ensues. At any rate, it is questionable as to the harm done in such a case ; but it is not good surgery. Injury to the eustachian tube, or soft palate, is not infrequent with an inexperienced and nervous operator. Two or three insertions of the forceps are usually sufficient, and the operation is completed by the curette and finger nail. The curettes sold as Gottstein's are, in most cases, curved in such a manner that only part of the pharyngeal wall is swept, and the operation is incomplete. In cases, complicated by projection forward of the atlas, Gottstein's curette is simply useless. Here Golding Bird's instrument, and Quinlan's forceps alone are of any use. In any case, the part must be vigorously attacked, and care taken to curette most thoroughly that part which, from the preliminary digital examination, you know has the larger portion of the mass. The faucial tonsils, if enlarged, are removed first. During the operation in the post nasal space, the anaesthetist may greatly assist the surgeon by steadying the head and securing the gag. Haemorrhage is usually very free, but, if the operator be rapid in his work, he may disregard it ; still it is an excellent plan to scoop the blood from the laryngo-pharynx, or have sponge holders at hand for this purpose. After removing the curette, the patient is rapidly turned over on his chest, the face hanging over the edge of the table, the naso-pharynx being thoroughly palpated, and any remaining growths removed with the finger nail. The more complete the operation, the shorter will be the bleeding. The blood, unavoidably swallowed during the operation, is usually vomited shortly after. I have omitted any mention of the hot or cold snare, as I consider the former dangerous, and the latter never sufficient.

The following complications occasionally occur after the operation.

(1) Severe haemorrhage, which may even be excessive at the time of the operation causing death in a few instances. The treatment is on general surgical principles.

(2) Occasionally patients complain of a slight ear ache, for a few minutes, following the operation. Acute otitis media occurs at times, but is probably only found in cases that have had the nose douched out for a few days following the operation.

(3) Injury to the eustachian tubes and soft palate should not occur in a properly performed operation.

(4) Blood and adenoid tissue may get into the larynx, necessitating immediate tracheotomy.

(5) Death from shock with cocaine anaesthesia has occurred. Sanford and Mayo Collier report a case each. (Price Brown).

(6) Enlargement of the retro-pharyngeal lymphatic gland.

(7) Retro-pharyngeal abscess may occur, though few such cases have been recorded as attributable to the adenoid operation. The treatment is obvious.

(8) Secondary haemorrhage, an exceedingly rare occurrence, may come on as late as 7 or 8 days. Immediate plugging with gauze, soaked in adrenalin solution and, if necessary, transfusion should be resorted to. I recently lost a case of secondary haemorrhage, occurring on the 4th day after the operation.

The question of recurrence of adenoids after thorough operation is but briefly considered by most authors. Strictly speaking, according to Wingrave, this lymphoid tissue, being embryonic, true recurrence is impossible, yet there are cases in which, after a thorough operation, there reappears a mass, similar in macroscopical appearance to adenoids, and producing the same symptoms. Lennox Browne, Develan, and Meyer have each reported cases where, after completely clearing the naso-pharynx, there appeared, some years later, adenoid-like masses. In a thoroughly performed operation, however, recurrence is very rare.

In after treatment, rest in bed, for four or five days following the operation, is essential to good results. Lennox Browne does not consider internal medication necessary in the after treatment. A mild antiseptic oil spray is very agreeable to the patient. Douching should never be performed before the fifth day, owing to the danger of infecting the tympanum. Careful inspection of the post-nasal space should be made within the first week, when any small tags, or webs, may be easily removed. Very frequently the removal of the larger portion of the mass results in the atrophy of the remainder. This may account for the good results seen in poorly performed operations.

As the operation is done for nasal obstruction, it is frequently the case that cleaning the naso-pharynx is a preliminary to attaining our object. Nasal breathing does not always follow a thorough operation. Those who have never had nasal respiration must be taught it. After the first few days, when the nose is clear of blood, should free and easy nasal respiration not be obtained, and we are satisfied the passage is clear, we must educate the nose, so to speak, to its work. Closing the mouth tightly and making the child inhale air through the nose may be the only way to show him he can breathe through it. The frequent use

of a handkerchief and attempting to blow a candle flame out, with the mouth closed, are valuable assistants. At night, however, some support must be given the lower jaw, so that the mouth will remain closed, and nasal respiration kept up. This supporting bandage may have to be persisted in for some time. The best performed adenoid operation may be an entire failure, from a respiratory point of view, by disregarding this part of the after treatment. General iron tonics are indicated in all debilitated cases.

To thoroughly appreciate the technique of an adenoid operation, as well as to become expert in its performance, is to be obtained only by operating on a large number, and not by reading test works, or watching over the shoulder of someone else doing the work. To discuss the morbid conditions, simulating adenoid, would make the paper altogether too lengthy. They are very ably recited in the *Journal of Laryngology*, September, 1891, by Wm. Wyatt Wingrave.

Nasal obstruction in which there are no objective reasons for such.—Not infrequently in young adults, we meet with a case in which, after removal of all impediments to nasal respiration, the patient insists he has nasal obstruction. I think Dundas Grant has applied the term "fixed idea" to these cases. Sometimes patients, with perfectly clear nostrils, insist that they have nasal obstruction. These cases probably do not *feel* the air pass in the nose, hence they state it does not.

I recently saw another rare and interesting cause of obstruction in a case of congenital sporadic cretinism, in which the naso-pharynx contained a mass of adenoids, apparently sufficient to account for the nasal insufficiency. After removal of the lymphoid tissue, nasal breathing was not as free as one would wish, owing, I think, to the extreme thickness of the soft palate, noted at the time of the operation, and the low vault of the pharynx.

CURRENT MEDICAL LITERATURE.

Conducted by A. J. MacKENZIE, B.A., M.B.

TUBERCULOSIS OF THE TESTICLE.

THE Journal of the American Medical Association for June 21st has a discussion of this subject by Orville Horwitz, M.D., of Philadelphia, in which an analysis is made of 96 cases operated on. From a study of these cases he concludes that heredity has but little influence, while other diseases or traumatism is frequently found to have had a predisposing influence. The author sums up as follows :—

1. A primary tubercular infection of either the epididymis or testicle may occur, the former being by far the more common.

2. A primary infection of the epididymis, secondarily that of the testicle, is more common than the descending one.

3. Primary involvement of either the epididymis or testicle usually takes place through the circulation, the soil being predisposed to the location of the tubercle bacillus either by a slight traumatism or by some infective condition which has given rise to inflammation of the organ, most commonly an attack of gonorrhœa.

4. Secondary tubercular involvement of the epididymis or testicle sometimes follows a primary focus of the disease in other portions of the body, more commonly in those organs that are in a direct anatomic connection with the sexual glands, such as the seminal vesicles, prostate, urethra, bladder, ureter or kidney.

5. The invasion of the testicle may be rapid, associated with acute inflammatory symptoms, an abscess soon developing; or the onset may be slow, the symptoms simulating those of either chronic syphilitic orchitis, or malignant disease of the organ.

6. The tuberculin test should always be employed in doubtful cases where only one focus of the disease is known to exist.

7. In doubtful cases associated with hydrocele, the fluid should be examined for the tubercle bacilli and inoculating experiments made.

8. The injections of either emulsions of iodoform or of sulphate of zinc into the diseased part are not to be recommended.

9. In all cases of encapsulated caseous nodules quiescent in the epididymis, epididymectomy should be performed.

10. Epididymectomy together with resection of the vas deferens is not attended by either atrophy of the testicle or sexual weakness.

11. That drainage and tubercular abscesses followed by the use of the curette is only to be employed where radical treatment is not permissible, as it is attended with more or less danger and is generally unsatisfactory in its results.

12. In instances where the epididymis alone is involved, a resection of the diseased structure is all that is required; whether a partial or complete resection of the vas deferens is to be undertaken is still undetermined.

13. Double orchidectomy should be performed when both glands are diseased, provided there is not extensive co existing tubercular infection of other organs.

14. Whether infected seminal vesicles should always be removed at the time that the epididymis or testicle is resected is a question open for discussion. From the fact that in a large majority of cases the removal of the primary seat of the disease is followed by a subsidence of the tubercular involvement of the vesicles, it is deemed wiser, as a rule, to wait and remove the vesicles later, if necessary.

15. Hygienic and climatic influences play as important parts after operations in fortifying the constitution against further invasion as they do in other tubercular conditions.

16. The anti-tubercular remedies are of great value in controlling the disease and should always be employed in conjunction with whatever surgical procedure may be deemed necessary

THE ETIOLOGICAL SIGNIFICANCE OF THE ACID-RESISTING GROUP OF BACTERIA.

THE Bulletin of the University of Pennsylvania for June in an article on this subject, gives the results obtained by an investigation conducted in the Laboratory of Hygiene of the University of Pennsylvania, between October, 1901, and June, 1902, by A. C. Abbot, M.D., and N. Gildersleeve, M.D.

It has been known for a number of years that bacteria are occasionally encountered, which, in morphology and staining reactions are so like the bacillus tuberculosis as to be mistaken for that organism in microscopic methods of study. These are widely distributed in nature, are capable of artificial cultivation and in the course of their growth in the tissues of animals they cause lesions in many ways suggestive of those of true tuberculosis. As is well known the distinction of the bacillus tuberculosis rests on its power of resisting decolorization

by an acid e.g. 3 per cent. hydrochloric acid and alcohol, and these other forms share this peculiarity, so that the ordinary test will not serve for their differentiation. This is true for the acid decolorizers ordinarily used but the real bacillus tuberculosis is the only one that in the experience of the investigators will resist the action of 25 per cent. aqueous solution of nitric acid—the original decolorizer used in the Koch-Ehrlich process. In process of growth these spurious forms develop often in much less time than the true, while the character of their growth is quite distinct but yet differs more in degree than in kind.

The effect of these forms on animals after injection, differs considerably, in many cases no effect is apparent in others inflammatory and purulent aggregations of tissue are found. In the experiments made in this investigation three forms were used the " Butter Bacillus " " Grass Bacillus II." and " Timothy Hay Bacillus " and experiments were made upon small animals—rabbits—and upon larger domestic animals—calves and hogs, forty-five rabbits, four hogs, and fifteen calves, in all being used. A series of experiments was also made, to determine the frequency of such micro-organisms in dairy butter, fifty samples being taken and tested by subcutaneous or peritoneal injection in guinea pigs. Space forbids a complete analysis of the results obtained but the conclusions derived are summarised as follows :—

(1) Some of the acid-resisting bacteria are capable of causing in rabbits and guinea-pigs nodular lesions suggestive of tubercles ; that these lesions, while very often like tubercles in their histological structure, may nevertheless usually be distinguished from them by the following peculiarities :

(a) When occurring as a result of intravenous inoculation, they are always seen in the kidneys, only occasionally in the lungs, and practically not at all in other organs.

(b) They constitute a localised lesion having no tendency to dissemination, metastasis, or progressive destruction of tissue by caseation.

(c) They tend to terminate in suppuration or organization rather than in progressive caseation, as is the case with true tubercles.

(d) They are more commonly and conspicuously marked by the actinomyces type of development of the organisms than is the case with true tubercles, and these actinomyces are less resistant to decolorization by strong acid solutions than are those occasionally seen in tubercles.

(3) That by subcutaneous, intravenous and intrapulmonary inoculation of hogs and calves, the typical members of the acid-resisting group are incapable of causing lesions in any way suggestive of those

resulting from similar inoculations of the same animals with true tubercle bacilli.

(4) That though occasionally present in dairy products, they are to be regarded as of no significance, etiologically speaking ; but may be considered as accidental contaminations from the surroundings and not as evidence of disease in the animals.

SERVICE OF INTERNES.

THE "Gazette des Hopitaux" for May 29th, is a special number devoted to the recent centenary celebration of the founding of the "Internat. de Médecine at Chirurgie" or service of Interne in the Paris Hospitals in 1802. Appointments to the Interne service are made by competitive examination, the number which in 1802 was twelve is now over seventy, they are keenly competed for by many of the 3,600 medical students in Paris, are tenable for four years, and each interne has the liberty of choosing the chief under whom he will serve. Among the famous names of past internes are Magendie, Claude Bernard, Baillon, Beyeron, Littré &c. In the court of honor in the "Hôtel Dieu" a memorial was erected in the form of a bas-relief representation of an operation for tracheotomy in memory of the internes who had sacrificed their lives in the discharge of their duties.

THE PROPHYLAXIS OF INFECTIOUS DISEASES.

PEDIATRICS June 1st, in an article by John Rübrah deals with the possibility of prophylaxis by means of antiseptics without isolation in different rooms. The combination of antiseptics and isolation suggested by Mr. Grancher and used by him with success for some years in the "Hôpital des Enfants Malades, is as follows :

The first care was the suppression of dust. To do this the floors are paraffined and are washed twice daily with a solution of sublimate. The walls are painted and washed twice a week with sublimate solution

The second care is the isolation of the patient. In order to accomplish this a metal screen 1.25 meters high surrounds the bed. One end is left open so that it may be entered. On entering the screen both physicians and nurses are gowned, and on leaving, the hands are disinfected by washing with soap and brush and the using of a 1-1000 solution of sublimate ; the gowns for each patient are hung on the screens of the respective beds. All mattresses and bedding are sterilized by steam,

and all the linen and articles used for feeding are boiled in water. The food is served on wire trays having a handle. On these trays are placed the bowl and saucer, knife, fork, spoon and napkin. After feeding the whole is placed in a pot of water with a little carbonate of soda and boiled for five minutes. This gives a temperature of 103° C. The beds are of iron and are disinfected by scrubbing with an acid solution of sublimate and a brush.

The results of this means of caring for contagious cases may be briefly summarized as follows :

Measles. During 1885, 1886 and 1887 there was an average of 36 cases of measles developing in the wards. During the decade following under the special precautions the annual average has been 11. Without giving the detailed figures it may be stated that the coefficient of infection for measles where special precautions were taken was 0.01. For the other wards of the hospital it was 0.02 or 0.03. The decrease of infections with the special precautions was about 3 to 1.

Varicella. This disease, with about the same contagiousness as measles, shows about the same result.

Diphtheria. Here the results are very remarkable. Previous to the careful work of isolation and antiseptics there was an average of 12 infections in each of two wards per year. Afterwards, during the next ten years, in one ward there was not a single case of infection and in the other ward there were only 6 cases, 5 of which were imported by visitors. In other words, infection from the cases of diphtheria was practically done away with. It must be understood that there were cases in the ward during these ten years but they came in either as developed cases or during the stage of incubation.

Scarlatina. In four ordinary wards during ten years there were 99 cases of scarlet fever. In the two wards where the experiments were tried there were only seven ; three of these were importations. Scarlet fever infection was therefore practically controlled.

Whooping Cough, Mumps and Bronchopneumonia. All three of these were practically entirely suppressed.

Notwithstanding the undoubted success obtained by this method, the difficulties it presents and the great dependence placed on the care of attendants renders it inferior to isolation in separate buildings when that is practicable.

THE FUNCTIONS OF THE EPIGLOTTIS.

IN *The British Medical Journal* of July 19th, Knowles Renshaw, Pathologist to the Manchester Consumption and Throat Hospital discusses the Functions of the Epiglottis. The classical theory is that

described by Foster and the older physiologists that its use is to close the opening of the larynx during the process of swallowing, being depressed over the larynx and the cushion at its base covering the *runa glottidis*. The reasons for disputing this explanation are (1) The muscles attached to the epiglottis, consisting of a few fibres of the *aryteno-epiglottideus* and part of the *thyro-arytenoideus externus*, are very weak and do not seem capable of bending the cartilage transversely; their function would appear rather to be to draw back the two lateral margins of the epiglottis and to make the *ary-epiglottidean* folds tense. (2) Persons in whom the epiglottis has disappeared have little or no difficulty in swallowing either solids or liquids. (3) The shape of the epiglottis is often such as to make it improbable that it should be sent backward or that it should make an efficient lid for the larynx if it were. (4) A case of corrosive-acid poisoning has been described in which the only part of the epiglottis to be eroded was the laryngeal surface of the *petiolus*—a position which should have been completely protected by a depressed epiglottis.

In 1892 Prof. Stuart suggested a more satisfactory explanation, to the effect that the epiglottis did not fold down in a lid-like way, but that the occlusion of the lower air-passages during deglutition depended entirely on the arytenoids which were approximated and moved forward, thus coming in contact with one another, and with the base of the epiglottis. The closing of the laryngeal entrance was at the same time assisted by the upward and forward movement of the entire larynx.

With this explanation the writer agrees so far as it goes, but believes that it is defective in that it does not account for the function of the epiglottis, which is too important an organ, and too constant in size and shape to be functionless. He found that notwithstanding the difficulty attaching to the use of the laryngoscopic mirror during swallowing, yet some cases evinced such tolerance that fairly satisfactory observation could be made. The position of the epiglottis was closely pressed against the back of the tongue, while the arytenoids were drawn upward and forward toward its base, and the whole larynx lifted upward and somewhat forward, thus opening the mouth of the *oesophagus*.

By the process of exclusion the writer concludes that the function of the epiglottis is the prevention of the trickling of the buccal and pharyngeal secretions downward into the larynx, and deflecting them laterally into the pyriform sinuses, whence they reach the *oesophagus*. In support of this it is urged that persons who have lost the epiglottis are troubled constantly with huskiness and desire to clear the throat. Its value in phonation is so far an unknown quantity.

THE TREATMENT OF INCIPIENT BRONCHO-PNEUMONIA IN INFANTS.

IN THE LANCET, June 20th, Theodore Zaugg, M.D., of Zurich, discusses the use of hydro-therapeutic measures in the treatment of incipient infantile broncho-pneumonia. The seriousness of this affection, and its occurrence as a fatal termination to whooping-cough and measles are noted; the writer's series of 120 cases of the former and 150 cases of the latter disease treated in this way present no mortalities.

At the outset of pneumonic symptoms (high temperature, diminished resonance, rales, increased respiration rate, etc.), a bath of 86°F. for two minutes, reducing the temperature to 76° by the addition of cold water, is given. The body is rubbed with the hand or a sponge, and if the child is feeble only a part of the body is immersed. If pneumonia is definitely established the bath may have to be repeated at intervals of from 8 to 24 hours. The "cross-packs" ("Kreuzburden") are used for bronchitis, and are applied as follows: A linen bandage 1½ inches wide for infants or 5 inches for adults and from 2 to 3 yards long is dipped in cold water (from 54° to 66°) and applied to the chest, passing from right axilla over left shoulder and back transversely across, then from left axilla to right shoulder. This is covered in turn with a flannel bandage, and the whole left in situ over night.

The writer believes this method of treatment is superior to chest packs and that with careful and intelligent use will be found as valuable in relieving symptoms and producing comfort as the baths have been found in typhoid. The value does not rest alone in the reduction of temperature but, by filling the capillaries of the skin, it relieves the internal congestion and indirectly stimulates the heart and great nerve centres.

Drug treatment may be used in conjunction though the writer has found even in severe cases that this form of management meets all indications.

DISEASES OF THE EYE, EAR, NOSE, AND THROAT.

Conducted by PERRY G. GOLDSMITH, M.D., Belleville,
Fellow of the British Laryngological Rhinological, and Otological Society.

THE TREATMENT OF ACUTE EARACHE IN YOUNG CHILDREN.

AT the June meeting of the American Medical Association Geo. L. Richards read a paper on this topic. He strongly advocates paracentesis if there be any noticeable bulging of the membrana tympani. During the first stage, before any marked exudation has taken place into the tympanum, he advises glycono-gelatin bougies made up as follows:

Rx Acid Carbolic, ℥ 7.
Fl. Ext. Opium, ℥ 6.
Cocaine, grs. 6.
Atropia Sulph., grs. 3.
Water, ℥ 52.
Gelatine, grs. 18.
Glycerine, grs. 158.

To make 47 bougies.

The bougies should be kept in lycopodium powder or wrapped in tinfoil and moistened with water before being put into the ear.

The writer uses glycerine acid carbol. dil. in these cases, to which is occasionally added a small amount of absolute alcohol, but is quite free to admit the addition of the other ingredients would be of material advantage. Not infrequently repeated attacks of earache in children are caused by acute adenoiditis. Removal of the adenoid is then the only rational procedure to prevent recurrence of the aural mischief. On the other hand, if the earache be reflex from decayed teeth these should be attended to at once. Moreover, if the glycerine and carbolic mixture be used, and paracentesis be ultimately demanded, the mixture will have sterilized the canal and go a long way in preventing the exudation from becoming purulent if it be not already septic, as well as shortening the inflammatory process within the tympanum by preventing re-infection from the external auditory canal.

CASE OF DIPHTHERIA :—INTUBATION IN EXTREMIS : RECOVERY.

WABURY in July *Pediatrics* cites a very interesting case, showing the difficulty that exists in the very latest stages of differentiating a death from exhaustion and one from suffocation. A child seven

years of age, ill with diphtheria for four days, had very great difficulty in breathing. It was thought that death was only a matter of minutes, as the only effort at respiration was an occasional gasp such as is seen in people who are dying. Without much hope, intubation was at once performed and strychnine 1-14 gr. administered hypodermically. The child rallied promptly and was given anti-toxine—3000 units, a small dose of which had been given previously. Recovery was uneventful.

THE USE OF CARBOLIC ACID IN ULCERS OF THE CORNEA.

THEOBALD, of Johns Hopkins, in the June number of the *American Journal of Medical Sciences*, speaks very highly of cauterization of ulcers of the cornea with carbolic acid. He prefers it generally to the actual cautery as being safer and less liable to leave opacities. His method is to apply the acid with a wisp of cotton on a wooden toothpick, allowing it to remain momentarily, when it is washed off with saline solution or a solution of boracic acid. No mention is made of fluorescein for staining the ulcer whereby the acid may be placed on the denuded portion of the cornea alone. Not infrequently it is absolutely necessary in virulent ulcers of the cornea that the cauterizing agent be placed under the small necrotic flap that so frequently surrounds the edges of the ulcer and under which the ulcer spreads. A camel's hair brush does this very nicely. It is not without danger to flush the excess of acid from the ulcer with any solution. A better plan, the writer thinks, is to apply the acid with a small camel's hair brush and carefully remove the excess with fine strips of clean blotting paper and subsequently using airol or iodoform ointment.

THE REMOVAL OF FOREIGN BODIES FROM THE EAR.

TODD, in the *American Journal of Surgery and Gynecology*, has a very practical article on this subject. Attention is drawn to the fact that most foreign bodies, *if left alone*, would do no special harm, for a time at any rate, but unskilled efforts to remove them may, (1) injure the lining of the canal; (2) perforate the drum-head; (3) force the foreign body through the membrane, giving rise to all the dangers and sufferings of acute otitis media, even if not mastoiditis and other sequelae of that grave condition. A very good rule is given, viz:—"If it is impossible to remove the foreign body by the intelligent use of the syringe, it is better for the average practitioner to cease in his attempts." The importance of a careful inspection of the meatus, with a forehead

mirror and speculum, is insisted upon, in order that one may be sure there is a foreign body, and also its nature if possible. Unless the object is *very easily* removed with a hook or scoop, or consists of a substance which will swell on contact with water, as a pea or bean, the syringe ought, in every one's hands, be used persistently at first. The canal being straightened by pulling the auricle upward and backward (in young children the traction must be downward), a small stream of water should be directed against the upper wall of the canal, in order that it may pass above the foreign body and wash it out below. Failing in this manner, the stream should be directed below. In case the object is an insect, hydrogen peroxide, or alcohol, may be used to hasten its death (chloroform vapor is also good). The writer next utters a note of warning against the use of instruments, unless the field of operation is quite in view, and the operator is perfectly familiar with otological work. In cases where there is considerable swelling, it is best to await its subsidence. Children should be anaesthetised for all instrumental interference. A very ingenious method of removing objects, though not by any means new, is to glue a camel's hair-brush to the foreign body; and, when it is hardened, traction of the brush may easily accomplish the desired result.

SUBMUCUS INJECTIONS OF PARAFIN IN CASES OF ATROPHIC RHINITIS.

AT the March meeting of the London Laryngological Society, Mr. Richard Lake, F.R.C.S., presented a patient, age 25, afflicted with atrophic rhinitis of many years duration. The customary crust formation responded somewhat to the usual local treatment; but the patient was dissatisfied, probably because she *felt* no air passing through the nose. This suggested to Mr. Lake the idea of contracting the nasal passages by making an artificial turbinated body by means of submucus injections of parafin. The parafin was prepared exactly like that for the external operation, explained in the June LANCET.

The injections were made under the posterior surface of the inferior turbinated body, about 5 minims each time, with intervals of one week. The relief obtained was inversely proportionate to the apparent increase in size of the turbinal. The patient was very much improved in her own estimation. In the discussion that followed, the majority of the fellows spoke very highly of the intra-nasal appearances produced.

Those who have occasion to treat many cases of atrophic rhinitis, or ozena, in which there is no accessory sinus mischief to be found, will

welcome anything that will add to their ability to mitigate the great discomfort of these patients. While this treatment does not act in concert with the usually explained pathology of this disease, Mr. Lake says "he does not feel so confident in the present pathology of atrophic rhinitis, as described in text books, to quite accept the explanations given by them as correct." This experiment is certainly very ingenious, and the outcome will be watched with a great deal of interest.

THE PRACTICAL VALUE OF NITRA-TRACHEAL MEDICATION.

P. S. DONNELLAN in the *Therapeutic Gazette* gives his experience of two years use of intra-tracheal medication in cases of chronic bronchial and pulmonary affections. The medications found most useful are creosote, menthol, guaiacol, or camphor made up in strengths of 2 or 4 per cent solutions with liquid abolene, olive oil, or Prices glycerine. The technique is the authors, the words is as follows. An anti-toxin syringe with laryngeal tip having a number of lateral openings is used. The larynx, is first anaesthetized with a 4 per cent solution of cocaine, the patient holding his tongue well forward, 2 or 3 drams of the solution are injected while the tip of the syringe is between the vocal cords, the patient at the time taking a deep breath. The writer can very heartily endorse this good procedure. He uses a Gibbs intra-tracheal syringe and has found a very marked and rapid improvement in cases of chronic larynx-tracheitis, and chronic bronchial trouble in elderly people. It has the great advantage of applying the medicine directly on the affected surface and avoids the use of many nauseating expectorant mixtures which, in order to reach the trachea must pass through the stomach and not infrequently, deranges the gastric functions. Donnellan has had some excellent results in bronchial asthma and incipient pthisis. Indeed, one is often able to detect the odor of the medicine used in the patients breath for hours following the injection.

PROVINCE OF QUEBEC NEWS.

Conducted by MALCOLM MACKAY, B.A., M.D., Montreal.

THE first meeting of the French Medical Society of North America was held in Quebec on June 25th, 26th and 27th, and considering the short time which was spent in organization was remarkably successful. The meetings were held in the buildings of the University of Laval, where some two hundred delegates assembled and discussed the papers submitted by eighty of their number. The arrangements for the accommodation and entertainment of the members were all that could be desired, and the medical profession of Quebec is to be congratulated on this portion of the work. The subjects for discussion were well chosen, and on the whole careful papers, showing wide reading, were presented. Indeed one might take exception to the amount of time spent in presenting data, obtained from standard text books and well known authorities, in a new form. Not that all or nearly all the papers were of this character, but a lack of originality was too much in evidence. On the other hand the discussions were lively and to the point, and while no new scientific fact was demonstrated, yet each speaker, in referring to his own personal experience, shed a new light on the subject of debate.

The next meeting is to be at Montreal in 1905 under the direction of the following officers :

Président, le Dr. Foucher, de Montreal ; 1er vice-président, le Dr. Ahern, Québec ; 2e vice-président, le Dr. Petit, de Nashua, N H. ; 3e vice-président, le Dr. Rouleau, Calgary, T.N.O. ; Secrétaire-général, le Dr. Lesage, Montréal ; Secrétaire-général, division de Québec, le Dr. Art. Simard, Québec ; Trésorier général, le Dr. Boucher, Montreal ; Trésorier général, division de Québec, le Dr. Marois, Québec.

Some indignation has been expressed among medical men of Montreal concerning a by-law passed some time ago by the town of Westmount. This bill states in general that a medical man attending a case of confinement within the town limits is responsible for the registration of the birth of the child, and in case of neglect is liable to a fine or imprisonment. At the last meeting of the Montreal Medical Society Dr. Elder brought up this bill for discussion, emphasizing in his speech the injustice of adding such a burden to the already overworked medical practitioner. He hoped to have an expression of opinion from the Society to forward to the town council, that the members might realize that the

by-law was considered by the majority of the medical men to be an imposition. During the discussion Dr. Girdwood stated that it was the greatest medical legal absurdity that he had seen for fifteen years. In the first place the registration card showed that the physician had to *name* the child, secondly say who the *father* was, together with his occupation, etc. The first was indeed a difficult and dangerous task, but the second would tax the ingenuity of the town council itself, and there were but forty days in which to accomplish the whole affair. He thought that the thing was absurd, and hoped that an emphatic statement of these views would be forwarded to the authorities. Several members of the Society who had been summoned and fined for neglecting to comply with the by-law spoke in the same strain, and after further discussion a resolution was drawn up and forwarded to the council, to the effect that the Medical Society of Montreal thought that the new by-law imposed an unnecessary and grievous burden upon the medical profession.

A CASE of considerable interest has recently been reported at the Royal Victoria Hospital. The patient, a woman aet. 26, was admitted on March 22nd complaining of diarrhoea, cough and great weakness. She dated the onset of her trouble back to her last confinement, which occurred three weeks previous to her admission to the hospital. The birth was normal, although the patient states that she lost a large quantity of blood. After the child was born the mother had chilly feelings alternating with hot sweats, and the temperature varied from 100° to 102°. Vomiting and diarrhoea, which had been present for three months, became very severe after delivery.

The personal and family history contained little of importance. She had been married three years and had one other child who died two weeks after birth, no history of miscarriages, and no history of syphilis. On admission the patient had T. 100 4-5, P. 134, R. 32. She was a fairly well developed woman with poor musculature but subcutaneous fat was in good quantity. The skin all over the body was of an earthy yellow hue, with patches of dirty brown pigmentation on the face and trunk. The lower extremities and back were markedly oedematous, and the mucous membranes very pale. The hair had fallen out in large patches and the scalp was dry.

The cervical, axillary, and epitrochlear glands were palpable, being small and hard.

The pulse was of small volume, low tension, rapid, and at times irregular. The cardiac dulness extended about one inch beyond the

nipple line, and there was a distinct thrill felt at the apex, presystolic in time.

Auscultation showed a galloping rhythm with reduplication of the first sound at the apex. At the base a soft systolic murmur was heard over the pulmonary cartilage and the aortic second sound was sharp.

Examination of the blood gave, red cells, 930,000, white cells, 6,000, haemoglobin, 15 per cent. (Dare's). Poikilocytosis was marked, megalocytes, microcytes and megaloblasts were present, and the pigmentation of the red cells varied from deep red to a pale, salmon colour. Several of the normoblasts had a divided nucleus.

The lungs showed diminished resonance all over left side behind, with some small moist rales.

The knee jerks were very much diminished, and the patient complained of numbness of the hands and feet. An examination of the eyes showed a well marked hæmorrhagic retinitis. The urine was dark coloured, specific gravity 1015. Albumen $\frac{1}{2}$ gramme per litre, no sugar, a few hyaline casts, no blood. The genitalia were normal.

The patient was put on liquid diet and dialysed iron. The vomiting and diarrhoea ceased and the temperature gradually fell until April 14th when the iron was changed to liquor arsenicalis m. iii T.i.d. Within three days the vomiting returned and the arsenic had to be discontinued. At this time the red cells were 916,666, white cells 5,400, haemoglobin 20 per cent. and the blood slides showed the same condition as before. On April 22nd the red cells numbered 520,000 per c.m.m. and the haemoglobin was 13 per cent. From this time the patient rapidly improved and on May 9th the erythrocytes numbered 2,000,000, haemoglobin 38 per cent. On May 16th she suddenly developed intense dyspnoea, T. 100 2-5, P. 128, R. 40. The lungs showed numerous moist rales throughout, and the albumin increased to three grammes per litre. By the end of May the pulmonary signs had practically disappeared, the haemoglobin was 52 per cent., erythrocytes 2,640,000. The patient gradually regained strength and was discharged on June 30th with erythrocytes 4,310,000, haemoglobin 52 per cent. There were no nucleated red cells found in the slides, and the poikilocytosis was very slight.

MARITIME TOPICS AND NEWS.

Conducted by W. D. FORREST, M.D., Can., L.R. C.P. Lond., M, R. C. S. Eng., B.Sc. Halifax.

MARITIME MEDICAL ASSOCIATION.

THE twelfth annual meeting was held in the Legislative Council Chambers, Charlottetown, on July 9th, and 10th, Dr. F. P. Taylor, the president of the association took the chair at 10.30 a. m., and called the meeting to order. After the reading of the minutes of the last meeting and the reception of delegates from sister societies, Dr. Taylor delivered his presidential address. In this he dealt with the different phases of medical education and pointed out the importance of a good preliminary training before entering upon the medical course Dr. Taylor thought the sooner a degree in arts is made compulsory the better.

Dr. Geikie, dean of the medical faculty of Trinity College, followed with a very interesting paper on "simplicity in medical treatment." He took pneumonia as the disease by which he illustrated his remarks. Bleeding in pneumonia was discussed and the kind of case, time of bleeding etc., were considered at length.

The address was practical throughout and was much appreciated by those who listened to it.

Dr. Van Wart, of Fredericton, then read his paper on "a plea for the surgical treatment of appendicitis."

A discussion followed this and the consensus of opinion seemed to be in favour of early surgical interference in such cases. Special mention was made to the attack through which our sovereign has recently passed.

The afternoon session opened with a talk on "Health, and how to save it" by Dr. McNeil, of Charlottetown. The paper abounded in many practical and useful suggestions which those, who would live long and be happy, might do well to follow. Dr. Houston, of Souris, reported a case of osteo-myelitis, which had occurred in his practice. He laid stress on the importance of diagnosing the condition early.

The meeting then adjourned to the grounds of government house, where the rest of the afternoon was very pleasantly spent eating ice cream and strawberries.

At the evening session Dr. H. D. Hamilton, of Montreal, referred to some laryngeal cases that came under his care. His remarks were well illustrated by charts. Dr. Stoddard, of Pueblo, Col., read a paper on

"some of the mistakes of surgical Gynaecology." This was a plea for conservatism in diseases common to women. He referred to the eagerness on the part of some to operate on all or nearly all of these cases. Medical treatment in many of these is all that is necessary, and at least should be given a trial. Dr. Dewitt reported a case of "Tumor of the mediastinum," and Dr. MacLaren gave notes on some cases of "Pyelitis in children." Then followed a general discussion on "Cancer" which was participated in by many.

At the Thursday morning session Dr. Weaver, of Halifax, discussed the therapeutics of the x-rays. Then came the report on a case of "Rupture of the uterus" by Dr. Fraser, of St. John's, Newfoundland. The patient was operated on and the uterus removed. The operation was performed in a small country shanty, some miles from St. John's, and, although under the most adverse circumstances, the patient recovered and made a speedy convalescence. Dr. Fraser was warmly congratulated.

On the afternoon of this day members were treated to a drive around the suburbs. The weather was delightful and the scenery was much enjoyed. At six o'clock they found themselves at a Sunday school picnic at which a special table was prepared for them. After justice was done to the dainties provided, the party returned to town, all feeling satisfied that their are worse forms of entertainment than Sunday school picnics.

In the evening the members were the guests at a "Smoker," given by the officers of the 4th regiment Canadian Artillery. Here the night passed pleasantly and everyone was made to feel at home. This by some was pronounced the most successful part of the whole programme. Everybody was pleased, everybody was happy, and no one, when he left the building, could have asked for anything *more*.

The next meeting of the association will be held in St. John. The officers for the ensuing year are: President, Murray MacLaren, St. John; Vice-President for P. E. I., P. C. Murphy, Tignish; Vice-President for N. S., G. M. Campbell, Halifax; Vice-President for N. B., R. Botsford, Moncton; Secretary, T. D. Walker, St. John; Treasurer, C. A. McPhail, Summerside.

The number enrolled at the Charlottetown meeting was 73.

NOVA SCOTIA HOSPITAL.

THE graduating exercises of the Training School for Nurses in connection with the Nova Scotia Hospital took place on the afternoon of July 24th. Lieut.-Governor Jones occupied the chair. Dr. Hattie,

the Superintendent of the Hospital, gave a history of the training school and an account of the work it was doing. The Governor then made a few remarks and presented the diplomas and prizes to the young ladies and gentlemen, who had successfully completed the course. Speeches were made by Admiral Douglas, the commander of the British North American fleet; General Parsons, the commander of His Majesty's troops in Canada; Rev. Father Underwood and Dr. B. Russell, M.P. Dr. Chisholm addressed the graduating class, giving them some sound, practical advice. After this the visitors inspected the hospital and grounds. Every one went away feeling that Dr. Hattie and his staff are sparing no pains to make the lot of this unfortunate class of patients as bright and cheerful as possible.

NEW BRUNSWICK MEDICAL ASSOCIATION.

THE twenty-second annual meeting of this association was held in St. John on July 15th. Papers were read and topics of general interest to the profession discussed. The attendance was large and everything passed off well. The following is a list of officers appointed for the ensuing year: President, G. A. Addy, M.D.; Vice-President, J. D. Lawson, M.D.; Second Vice President, A. Meyers, M.D.; Treasurer, G. C. Melvin, M.D.; Secretary, Clara Olding, M.D.

PRINCE EDWARD ISLAND MEDICAL SOCIETY.

THE annual meeting of this society was held at Charlottetown on the morning of July 9th. Business affecting the society was attended to, after which the meeting adjourned in order that the members might attend the meetings of the Maritime Association. Dr. F. F. Kelly, of Charlottetown, was elected president, and Drs. Conroy and Shaw, secretary and treasurer respectively for the ensuing year.

UNIVERSITIES AND COLLEGES.

THE COLLEGE OF PHYSICIANS AND SURGEONS OF ONTARIO.

THIS is the name adopted by the medical profession of the Province of Ontario. By an Act of the Legislature the profession was incorporated under this name. The Council of the College of Physicians and Surgeons is composed of thirty persons, elected for a period of four years. Seventeen of these are elected by the members of the profession residing in their respective districts. Eight of the members of the Council represent the following Universities or Colleges: University of Toronto, Queen's University, Victoria University, Trinity University, Toronto School of Medicine, Royal College of Physicians and Surgeons, Trinity Medical College, Western University. Five are elected to represent the Homœopathic members of the profession.

This Council has power to regulate the medical education of the Province, to admit and enrol medical students, to determine the curriculum of studies, to appoint examiners, and to define the manner of admission of those holding degrees from other Provinces or countries.

In order to register as a matriculated student the applicant must hold one of the following qualifications: A certificate that he has passed the examination conducted by the Education Department for honor matriculation in Arts, with physics and chemistry; a certificate from any University in Canada, conducting a full arts course, that he has passed the senior matriculation, or the examination at the end of the first year; and graduates in Arts in any University in His Majesty's dominions. The fee for registration is \$20; and the course of medical studies dates from that of registration.

Every student must spend five years in the actual study of his profession, excepting graduates in Arts and Sciences, who have spent two years in the study of physics, chemistry, biology and physiology. The fifth year must be devoted to clinical work in a hospital, or six months with a physician and six months in a hospital or dispensary. During this final year the student is required to take twenty-five lectures on each of the following subjects: Medical cases, surgical cases, obstetrical and gynæcological cases, and pathological work. The four winter sessions must be eight months each.

The curriculum of professional study consists of two courses of eight months in descriptive and practical anatomy of 280 lectures or demon-

strations each year; one course of 50 lectures in topographical anatomy; two courses of eight months each in physiology and histology of 120 lectures and demonstrations each year; two courses of eight months each in theoretical and practical chemistry of 150 lectures and demonstrations each year; two courses of 50 lectures in materia medica and pharmacy; two courses of 80 lectures each in the principles and practice of medicine; two courses of 80 lectures each in the principles and practice of surgery; two courses of 80 lectures each in midwifery and diseases of women; two courses of 100 lectures in clinical medicine; two courses of 80 lectures in clinical surgery; one course of 50 lectures in jurisprudence and toxicology; one course of 100 lectures in pathology and bacteriology; one course of 30 lectures in sanitary science; one course of 50 lectures in therapeutics; one course of 10 lectures in mental diseases; two courses of 20 lectures in children's diseases; a course of 5 lectures and 5 demonstrations upon the use of anæsthetics and having administered an anæsthetic 5 times; the dissection of the human body once; practical hospital work for 24 months during the first four years; and, having attended 6 cases of midwifery. Each lecture and demonstration shall be at least one hour.

The subjects for each examination: (1) Primary: anatomy, physiology and histology, practical and theoretical chemistry, materia medica and pharmacy. (2) Intermediate: Medical, surgical, and topographical anatomy, principles and practice of medicine, general pathology and bacteriology, operative and non-operative surgery, operative and non-operative midwifery, medical jurisprudence and toxicology, mental diseases, sanitary science, diseases of women and children, and therapeutics. (3) Final: Clinical medicine and surgery, diseases of women, medical and surgical diseases of children. The Primary and Intermediate Examinations are written and oral; and the Final, clinical and oral.

Homœopathic students are required to spend four sessions, of not less than six months each, in a college, approved of by the Homœopathic representatives on the Council.

The following persons are entitled to register:

(1) Those who have complied with the course of study as above given for regular, or homœopathic practitioners.

(2) Graduates in medicine from recognized medical colleges outside the Dominion of Canada must pass the matriculation required by the Council, must attend one or more full winter courses of lectures in some Ontario medical college, must complete the practical and clinical curriculum after the fourth year and pass all the examinations.

(3) British registered practitioners of five years standing from the date of registration may register on payment of all fees and passing the

Intermediate and Final examinations. Those who have not been five years in practise must pass all the professional examinations.

(4) Homœopaths who have spent four sessions of six months each in some college approved of by the homœopathic members of the Council, and have passed the matriculation and professional examinations as above laid down for homœopaths.

(5) Licentiates under the Acts of Upper Canada, 8 George IV ; or under the Consolidated Statutes of Upper Canada, 2 Vict. ; or under the Consolidated Statutes of Lower Canada, 10 and 11 Vict.

The following penalties may be imposed: If any person procures false registration his name shall be erased and incur, on conviction, a penalty not exceeding \$100; and any one aiding him, a fine of not less than \$20 nor more than \$50. Any one who practises, without registration, shall, on conviction, pay a fine of not less than \$25, nor more than \$100, for every offence. Any person pretending to be a practitioner, or who assumes wrongly titles, shall be liable to a fine from \$10 to \$50. Any person who is not registered, but leads the public to believe he is, shall be liable to a fine from \$25 to \$100. No person shall be entitled to recover charges unless he is registered. Any registered practitioner who may be convicted of any offence that if done in Canada would be a felony or misdemeanor, or is guilty of infamous or disgraceful conduct, in a professional respect, shall be liable to have his name erased from the register. Any person who is entitled to be registered, but who neglects to register, forfeits the rights and privileges conferred by registration, and is liable to all the penalties imposed against unqualified practitioners. The name of any practitioner who is in arrears for twelve months with his annual fee, and after two months' notice of such default, shall be erased from the register. In case the penalty and costs awarded by a justice of the peace be not forthwith paid, he may commit the offender to the common gaol for a term not exceeding one month.

The fees are as follows:—Registration of matriculation, \$20; primary examination, \$30; intermediate and final with registration, \$50; the diploma, \$5; and the annual assessment \$2.

THE COLLEGE OF PHYSICIANS AND SURGEONS OF QUEBEC.

THIS is the qualifying body for the Province of Quebec. All registered practitioners resident in Quebec, are incorporated under the name of the College of Physicians and Surgeons of the Province of Quebec, with the usual general powers of an incorporated body. The College must maintain an office in the cities of Quebec and Montreal. Every

person who is authorized to practice medicine, surgery or midwifery, is called a member of the College of Physicians and Surgeons.

The affairs of the College of Physicians and Surgeons are managed by a board of governors, consisting of forty persons representing the profession and medical colleges, elected for a period of three years, from among those who have been at least four years in practice. In the event of a vacancy among the elected members, the board of governors fills the vacancy; in the case of an appointed member, the College or University he represented fills the vacancy. The Board of Governors of the College of Physicians and Surgeons is also known as the "Provincial Medical Board."

The Board of Governors, or the Provincial Medical Board, regulates the study of medicine, surgery, and midwifery, by determining the nature and extent of preliminary qualification, the duration of study, and the curriculum of professional studies. It examines all credentials, certificates of study, all documents, and diplomas submitted for registration, or purporting to entitle the person to a license to practise. It keeps a proper register of all persons registered. It also makes rules and regulations for the government of the corporation. The Board appoints examiners, and lays down rules for their guidance, and the subjects on which the examinations are to be held. The Board also appoints assessors, from its own members, or from the registered members of the College of Physicians and Surgeons, to attend the examinations in the universities and colleges, and to report to the Board upon the same. The Board has power to determine upon a tariff to be charged in towns and country for medical, surgical, or obstetrical advice, or attendance. This tariff must be approved by the Lieutenant-Governor in Council.

The following persons are entitled to register, and obtain a license to practice in the Province of Quebec.

(1) Any person who has attended medical lectures during three sessions in a medical school in the British possessions, and who has practised for thirty years in the Province, and furnishes a certificate from two resident practitioners that he has been successful.

(2) Those who have attended a recognized Medical School or College, three sessions of six months, during his four years of study, the first session in his first year, and the third session in his fourth year. He must furnish a certificate of study with a practitioner during the period between sessions; that he has attended a hospital, of not less than fifty beds, for three periods of six months each; and that he attended six cases of labor, and compounded medicine for six months. He must attend two courses of six months in anatomy, practical anatomy, surgery,

medicine, midwifery, chemistry, materia medica and therapeutics, physiology and pathology, clinical medicine and surgery; one course of medical jurisprudence; one course of three months on botany and hygiene; and a course of twenty-five demonstrations on microscopic anatomy, physiology and pathology. Before entering upon his medical studies, he must hold a degree in arts, science, or letters from a British or Canadian University or pass an examination on English, French, Latin, Geography, History, Arithmetic, Algebra, Geometry, Literature, Botany, Chemistry, Natural and Moral Philosophy, before the examiners appointed by the Medical Board. The professional examinations are divided into a primary on chemistry, anatomy, physiology and general pathology, hygiene and histology; and a final on materia medica and therapeutics, obstetrics and diseases of children, special pathology, jurisprudence and toxicology, medicine, surgery, bacteriology and special work on eye, ear, nose, throat and women's diseases. These shall be oral or written.

(3) Those who hold a degree in arts, science or letters, or who have passed the preliminary examination of the College of Physicians and Surgeons, and who have obtained their degree or diploma in medicine from a University in the Province, or the Royal College of Physicians and Surgeons of London, are admitted to registration and receive the license to practise.

(4) The Board has power to admit to registration those who are registered in Great Britain, or who hold diplomas, after a four years course in a British or Colonial University, or Medical College, or those of France, provided the course complies with the requirements of the Quebec Medical Board.

(5) Persons coming from a recognized College outside British possessions may register on passing the preliminary examination, attending a full course of six months in some Medical College in the Province, and passing the professional examinations.

The penalties which the Medical Board may impose are that any member convicted of felony forfeits his right to registration and shall have his name erased, if registered. If any one practises without registration he shall be subject to a fine of \$50. If he unlawfully assumes the title of doctor, a fine of \$50. Those who have not paid the annual fee have no legal standing nor can they vote. The annual fine for neglect to register, \$5.

The fees are as follows:—admission to study of medicine, \$20; license to practise, \$40; annual fee, \$2; additional degrees, \$1; examination and registration of midwife, \$10.

THE COUNCIL OF PHYSICIANS AND SURGEONS OF NEW BRUNSWICK.

THIS is the name given the body established by the New Brunswick Medical Act of 1881, and subsequent amendments thereto. The affairs of the profession are managed by this council, which consists of nine persons. Four are appointed by the Governor-in-Council for a period of four years; and five are elected by the New Brunswick Medical Society for three years. All the members of the Medical Council must be legally qualified practitioners of at least seven years' standing. All legally registered practitioners are members of, and constitute the New Brunswick Medical Society. Vacancies on the council are filled by the body, or authority, appointing the member in the first instance. Should the Medical Society, or the Governor-in-Council, neglect, or refuse to make appointments, or fill vacancies, then the Medical Council may make appointments.

There shall be a medical register for the Province, kept by the secretary of the council, who shall be a duly qualified practitioner, and who shall be called the registrar. He shall publish on the first of May, each year, a correct list of all the names on the register on the first of January. Such publication shall be *prima facie* evidence of registration, or *vice versa*.

The following persons shall be entitled to register :

- (1) All persons who had practised for twenty years prior to the passing of the Act.
- (2) All persons who were practising at the time the Act was passed, and who held a degree or diploma from a chartered college or university in any country where such was recognized.
- (3) Non-resident regular practitioners, residing in the State of Maine, or in the Provinces of Quebec or Nova Scotia, near the boundary line of New Brunswick, whose practices extend into the Province.
- (4) Those who comply with the preliminary and professional curriculum of the Council, as follows :

He must pass a matriculation examination on English, Arithmetic, Algebra, Geometry, Latin, Mechanics, Chemistry, Canadian and British History, and any two of Greek, French and German. They must make an average of 60 per cent. and a minimum of 40 per cent. The following are accepted in lieu of this matriculation : The matriculation examination for an under-graduate course in arts or sciences at some college in Britain, Ireland, Canada, the United States, or the continent of Europe or a first-class teacher's certificate from the Board of Education of New Brunswick. The New Brunswick Council matriculation is sufficiently

high to be accepted by Canadian and American colleges, and the Medical Council of Great Britain.

The professional course shall consist of not less than four years, during which time he shall attend lectures in a university, college, or medical school in good standing, for four sessions of six months each. These courses shall include satisfactory instruction on Anatomy, Practical Anatomy, Chemistry, Practical Chemistry, Physiology, Histology, Materia Medica, Pharmacy, Therapeutics, Surgery, Medicine, Obstetrics, Diseases of Women and Children, Medical Jurisprudence, Hygiene, Pathology and Bacteriology.

He must attend a hospital for at least twelve months, of not less than fifty beds, under at least two physicians or surgeons. He must also have passed the examination required by his college on the above subjects, after a full four years' course of study. The professional examinations which he must pass for the license are: Primary, at the end of the second year, and Final at the end of the fourth year. If any person applies for registration as a practitioner of any system, the registered practitioners of that system shall appoint the examiners on Materia Medica, Pharmacy, and Therapeutics. If they fail to do so, then the council shall appoint them.

(5) Those who have passed the examinations required by the sole examining body of another province, wherein the curriculum is equal to that of New Brunswick, provided the same privilege is extended to those holding the license from the Council of New Brunswick.

The council has the following powers: To elect a president and other officers; to regulate the study of medicine; to appoint examiners for the preliminary and professional examinations; to examine all degrees and diplomas presented for registration and demand proof of their genuineness; to cause every person practising in New Brunswick to register; and to make rules and regulations for the study and practice of medicine as may be deemed necessary.

The council has power to impose the following fines and penalties.

(1) Any person entitled to register, who neglects to do so, shall not be entitled to any of the rights or privileges of the act.

(2) Any registered practitioner, who shall be convicted of a felony in court, or shall be judged by the council to have been guilty of infamous conduct in any professional respect, shall forfeit his registration subject to an appeal to the Governor in council.

(3) No person shall be entitled to recover any fee, or charge, unless he is duly registered.

(4) If any person not registered under the act, practises medicine for gain, he shall forfeit \$20 for each day he practises.

(5) Any person who shall wilfully procure, or attempt to procure registration by fraudulent representation shall forfeit and pay a fine of not less than \$100 ; and likewise any person aiding in such fraud.

(6) Any person, who shall wilfully take or use falsely any title, or description, implying that he is registered, shall forfeit a fine not exceeding \$100.

(7) Any registered practitioner, who subjects to pay his annual fee, shall thereby close his registration and his name shall be left off the register when the same is published.

(8) All fines are recoverable by summary conviction before two justices of the peace. In the event of an enquiry being ordered by the council into the conduct of a registered practitioner, notice shall be given of the time and place of such enquiry ; subpoenas may be issued ; and any person neglecting to obey such, is guilty of contempt before the court issuing such subpoenas.

The council imposes the following fees : For the matriculation examination, \$5 ; for supplemental examination on one or more subjects, \$5 ; for the professional examination, \$10 ; and an annual fee of \$1.

THE MEDICAL BOARD OF NOVA SCOTIA.

THE Medical Act of Nova Scotia regulates the practice of medicine and surgery in the province. By this Act, a Medical Board is established. This board consists of thirteen medical practitioners of at least seven years' standing. Seven are appointed by the Governor-in-Council, and six are elected by the Medical Society of Nova Scotia. For this purpose the Medical Society of Nova Scotia is regarded as an electoral, or an incorporated body, for this purpose. The appointed members of the board hold office during good behaviour ; and the elected members, for a period of three years. The board appoints a secretary, or registrar.

The board has power to elect officers ; regulate the study of medicine in respect to preliminary qualifications, course of study, professional examinations ; the appointment of examiners to conduct the preliminary and professional examinations ; the examining of all degrees, diplomas, and licenses presented in support of an application for registration, and cause all students and practitioners to register, prior to pursuing their course of medical studies, or engaging in practice.

The following classes of practitioners are entitled to registration :—

(1) Those who are duly registered by the Medical Council of Great Britain.

(2) Those who hold the license of any council or board recognized as the sole examining body for any province in Canada, if the curriculum

for such be equivalent to that for Nova Scotia, may register, provided the same privilege is extended to the registered practitioners of Nova Scotia.

(3) Persons who have passed the preliminary examination of the board, or such examination as the board may accept; who have for four years, of eight months each, attended in a university, college or incorporated school of medicine, a sufficient number of lectures on anatomy, physics, chemistry, physiology, histology, materia medica, pharmacy, therapeutics, surgery, medicine, obstetrics, diseases of women and children, jurisprudence, hygiene, pathology, and at least 18 months in hospital work of not less than 100 beds, under at least four teachers, or twelve months in a hospital and six in a dispensary, which studies are to be made as practical and clinical as possible; who have passed the examinations required on each professional subject of the medical course obtaining the diploma from a recognized college or university; who have received the certificate of qualification from the board, by passing its final examination. Homœopathic students are examined by homœopathic examiners in materia medica, therapeutics, practice of medicine, surgery, and midwifery, except the operative and practical parts. The board accepts in part of the professional examinations of a recognized university, or college, and requires the candidate to pass only the final professional examinations on medicine, including therapeutics, medical anatomy and clinical medicine; surgery, including surgical anatomy, and diseases of the eye, ear and throat; obstetrics and diseases of women and new-born children; and medical jurisprudence and hygiene. These examinations are written, oral and clinical.

The following universities and colleges are recognized as equivalent in the primary examinations: McGill, Toronto, Manitoba, Dalhousie, Halifax Medical College, Laval, Columbia, Coll. Phys. and Surgs. N.Y., Bellevue, Univ. City of New York, Harvard, Boston University, Univ. of Pennsylvania, Jefferson, Johns Hopkins, Univ. of Michigan, colleges recognized in Britain, Univ. of Maryland, College Phys. and Surgs. Baltimore, Univ. N. Y. State.

The preliminary examination covers a thorough knowledge of English, arithmetic complete, algebra, geometry, history and geography, Latin, French, and German or Greek. This examination is accepted by the Medical Council of Great Britain. Graduates in arts or science of a recognized College or University, or those who have passed the entrance examination of the Nova Scotia Barristers' Society are exempted.

The Act gives power to impose the following fines and penalties:—Any medical practitioner who has been sentenced to imprisonment in a

penitentiary, or who has been guilty of infamous conduct in a professional respect, shall forfeit his right to registration, and, if registered, his name shall be erased. A fine of not less than \$100 may be imposed for obtaining registration by misrepresentations. Any person practising without due registration is liable to a fine of not more than \$20 for each day he so practices or advertises. Any person pretending to be a physician or surgeon, or to hold qualifications which he does not possess, shall be liable to a fine, for each offense, of not more than \$100. Any person who is not registered, but uses means to induce people to believe he is registered, is liable to a fine not exceeding \$100. The registrar is liable to a fine of not less than \$100 for every wilful falsification in the registers

The Medical Board imposes the following fees:—for matriculation examination, \$10; for registration as a medical student, \$10. Those who have taken the matriculation examination are registered free. For a supplemental examination, \$5. For the privilege of writing at a locality more convenient than Halifax, \$2 extra is charged for all the above examinations. For the final professional examination, \$35; for re-entry in all subjects after registration, \$20; for one or more subjects, \$5 for each.

THE MEDICAL COUNCIL OF PRINCE EDWARD ISLAND.

BY an Act of the Legislature for the Island, the medical practitioners of the Island are incorporated into a medical society for the purpose of regulating the medical profession of the place. The members of this medical society elect seven of their number to form a medical council, in whose hands the management of the medical affairs of the Island are reposed.

The following points may be mentioned regarding the requirements for registration :

(1) The council admits to registration all such persons as are duly registered by the General Medical Council of Great Britain.

(2) Those who pass the matriculation examinations of the Island on English, arithmetic, algebra, geometry, Latin, mechanics, history, French, and German, or have a degree in arts or a first-class certificate; and, after passing the matriculation examination, attend a recognized medical college for at least four years, one session in each year of such length as the council may approve of, and attend a hospital of not less than 100 beds for twenty-four months; and pass the professional examinations on anatomy, practical anatomy, chemistry, practical chemistry, physiology, histology, materia medica, pharmacy, therapeutics, surgery, clinical surgery, medicine, clinical medicine, obstetrics, diseases of women

and children, medical jurisprudence, hygiene, pathology, bacteriology, and making post mortem examinations.

(3) Persons holding the qualification of the sole examining body of another province, wherein the curriculum is equal to that approved of by the Medical Council of Prince Edward Island, may register, provided the same privilege is accorded by such province to those registered in Prince Edward Island. They must show that they are in good standing, and that there is no charge of wrong conduct against them at the time.

The fees are: For matriculation, \$10; for a supplemental examination, \$5; for the professional examination, \$15; for registration, \$20; and the annual assessment, \$5.

A name may be removed from the register for infamous or disgraceful conduct in a professional respect. The council shall enquire into the case of any registered practitioner against whom a complaint is made, in writing, by any three registered practitioners; and may remove his name, if the charges are proven. The council, on notice to the effect that a registered practitioner has left the Island for two years, shall erase the name, unless requested by the said party not to do so, and his paying the annual assessment.

COLLEGE OF PHYSICIANS AND SURGEONS OF MANITOBA.

THIS college is composed of every registered medical practitioner in the Province, and is the sole licensing body.

Its license to practice is granted upon the certificate of Manitoba University that the holder is a graduate of said University, by examination, or that the party applying is a licentiate of a College of Physicians and Surgeons, or of any other incorporated body of medical men exercising similar powers, in a Province of the Dominion where reciprocal rights are granted to graduates of Manitoba University by examination, and licentiates of the College of Physicians and Surgeons of Manitoba.

The fee for registration and license is \$75.

By the Medical Act of 1886 all the examining powers which previously belonged to the College of Physicians and Surgeons were vested in Manitoba University, and in lieu thereof four members chosen from the Council of the College of Physicians and Surgeons are members of the University Council.

The medical course of the University of Manitoba, accepted by the College of Physicians and Surgeons, consists of:

1. A matriculation examination of the following fixed subjects: Latin grammar, authors, and translations; Arithmetic; Euclid, three books; Algebra, the rules, roots, surds, quadratics, and fractions; English Rhetoric, Composition, and Poetic Literature; History, British and Canadian; Botany, and Physics. The matriculations of the Medical Council of Ontario and Quebec are accepted; also the Certificate of the Council of Great Britain; second class non-professional teachers' certificates of Manitoba, Ontario, or the Northwest Territories; Ontario Junior Leaving, and Arts Degrees from a University in His Majesty's Dominions.

2. A professional course of studies and annual examinations as follows: For the first year, one full course of at least 75 lectures, during a session of eight months, upon Anatomy, Practical Anatomy, Physiology,

60 lectures in Inorganic Chemistry, 25 lectures of two hours on Histology.

For the second year, two full courses of at least 75 lectures over two sessions of eight months on Anatomy, Practical Anatomy, Physiology, Materia Medica and Therapeutics, Practical Medical Chemistry, 40 lectures of two hours, Organic Chemistry.

For the third year, one full course of 40 lectures, over eight months, in Surgical Anatomy, Medical Jurisprudence, 25 lectures on Pathology, 50 lectures on Sanitary Science, and a second course of 75 lectures on Materia Medica and Therapeutics.

For the fourth year, two courses of 75 each in Medicine, Surgery, and diseases of women and children, two courses of 100 each in Clinical Medicine and Surgery; two courses of 50 each on Gynæcology.

He shall also furnish documentary evidence of attending for twenty-four months at some incorporated General Hospital, and also of eight months' practice in a Lying-in-Hospital, or of having had equivalent obstetrical advantages, with a certificate of attendance upon at least eight cases of labor, and also a certificate of having had three months' practice, compounding medicine in a drug store or laboratory of any hospital, or of having attended twenty lectures in Practical Pharmacy at some medical college or school, recognized by the University of Manitoba.

A graduate in Arts of a recognized University in His Majesty's Dominions may complete his course in three winter sessions of eight months each.

The examinations are written, except in the clinical and practical subjects. Fifty per cent. shall be required on each subject for a pass, and 70 per cent. for honors.

For the degree of C. M., the candidate is required to pass on Operative Surgery, and write a thesis in presence of the examiners. Seventy-five per cent. is required.

COLLEGE OF PHYSICIANS AND SURGEONS BRITISH COLUMBIA.

FOR a number of years, there existed in British Columbia an incorporated body, known as "The Medical Council of British Columbia."

This act was amended in 1898 and the name was changed to that of "The College of Physicians and Surgeons of British Columbia." Under this name the physicians and surgeons of the Province are an incorporated body. All persons who become registered to practice are called members of the College of physicians and Surgeons of British Columbia.

From amongst those who are duly registered members of the College of physicians and Surgeons, there shall be elected seven, who shall constitute the council. The members of the council are elected for a period of three years. No one shall be entitled to vote unless he is duly registered; any one in arrears with his annual fee shall be entitled neither to vote for, nor to be elected, a member of the council.

The council shall keep a register of duly qualified practitioners only such as are entered upon the same shall be entitled to practice. The fee for registration shall not exceed \$100, and the annual fee shall not be less than \$2.50 nor more than \$10. The following may register:—

(1) All persons who are registered to practice in Great Britain under the Imperial Medical Act, Vict. 49 and 50, shall be entitled to register,

and who have not lost the benefit of such registration by any misconduct or otherwise.

(2) Any person who has a diploma or qualification from a college or school requiring a four years' course of study; or, if the college or school did not require a four years' course, a post graduate course has been taken, so as to make up a four years' course, when added to that of the college or school, shall be entitled to register on passing an examination. This examination shall cover the following subjects: Anatomy, Chemistry and Public Health, Physiology and Histology, Materia Medica and Therapeutics, Medical Jurisprudence, Theory and Practice of Medicine and Medical Pathology, Theory and Practice of Surgery and Surgical Pathology, Clinical Medicine, Clinical Surgery and Surgical Anatomy, and Obstetrics and diseases of women and children. If the applicant for registration fails, \$50 of the registration, or examination fee shall be returned.

Homœopathic physicians desiring to register shall furnish evidence of holding a diploma from a college or school requiring a four years' course of study. He shall pass an examination upon the subjects of anatomy, physiology, pathology, chemistry, obstetrics, and surgery. One half the fee or \$50 is returned in the event of his failure.

The right of registration may be forfeited, or a name may be erased from the register for the following causes: Any entry on the register fraudulently made by the registrar; any registration falsely or fraudulently obtained by the applicant; any registered practitioner who has been convicted in any court of any felony or misdemeanor, nor shall such be registered should he make application; and, on the application of any two registered practitioners, the council shall cause enquiry to be made into the alleged act of felony, or infamous or unprofessional conduct, or fraudulent act to obtain registration. Should the charge be proven, the name shall be removed from the register.

TRINITY MEDICAL COLLEGE.

THE announcement of Trinity Medical College for 1902-1903 was issued a short time ago. Among other matters of information which it contains, the following may be noted:

The corporation of Trinity Medical College has finally and definitely decided against amalgamation.

Those holding the Diploma of Fellowship from the College are entitled to go up for examination before the Royal College of Surgeons and Physicians in Great Britain and Ireland, with precisely the same exemptions from various parts of such examinations as are allowed to holders of University Degree.

In addition to the regular work of the session, the following special courses of lectures have been arranged for: Gynæcology, 30 lectures; Genito-Urinary Surgery, 20 lectures; Abdominal Surgery and Hernia, 20 lectures; Brain and Spinal Cord Surgery, 20 lectures; Diseases of the Heart and Lungs, or of the Nervous System, 20 lectures; Diseased Conditions of the Blood and Blood Vessels, 20 lectures; and a special course in Operative Midwifery.

On account of the introduction of the eight months' winter session, no summer session will be held.

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EDITORIAL.

THE KING'S HEALTH.

ALL the Empire rejoices over the King's recovery. He is now crowned, as the ruler of the mightiest Empire of ancient or modern times. It is true, the Coronation was a much quieter event than if it had taken place on 26th June; but who cares for the absence of a little outward pomp, when all can say, as they do most joyously, "The King lives." Long may His Majesty be spared to grace the throne of the British Empire.

THE DOMINION MEDICAL COUNCIL.

IN this issue of the CANADA LANCET, the standard of Medical Education for the various Provinces is given. From this it would appear that there ought to be no great difficulty in establishing a common standard for the Dominion, as provided for in the Bill, which was carried through the House of Commons last session by Dr. T. G. Roddick, of Montreal.

The Preliminary standard, or Matriculation, in all the Provinces, is a high one. There is not enough difference in any of them to cause the slightest barrier towards the securing of a common one.

In the matter of the Professional standard, there appears to be some differences in the respective Provinces. When these differences are examined, however, they very largely disappear. In all of the provinces, a four years course is required, with the exception of Ontario, which adds on a fifth year for practical and clinical work.

In some of the Provinces, the session is a six months' one, while in others it is one of eight months' duration. In some instances, more hospital experience is called for than in others. There is also some differences in the fees, and penalties, but not sufficient to create an obstacle to a complete understanding between the Medical Councils of the Provinces.

It is a matter for congratulation that the Medical Council for Ontario, at its recent meeting, adopted a resolution to take steps to have the Ontario Legislature pass an Act legalizing the Roddick Bill. It is to

be hoped that the other Provinces will soon fall in line. If the Councils of the other Provinces do as that for Ontario has done, there is no doubt but that the Governments of these Provinces will pass the requisite legislation, to establish a Dominion standard of registration and practice.

In Great Britain, any qualification that entitles the holder to register in Scotland, Ireland, or England, entitles him to practise in either of the other two portions of Great Britain and Ireland. This should be so in Canada. The qualifications for the several Provinces should be made so nearly alike, as to be accepted by a central council or registering body.

No one for a moment would gainsay the great advantages of such a state of affairs. Medicine is a science, and is the same in Prince Edward Island as in British Columbia. To all those who are now registered in any Province, no harm could come by such a change. To those who are yet to qualify, nothing but good could come from a common Dominion standard, and that, too, a high one. In bringing about such an important change there must be some compromise; but the CANADA LANCET would respectfully submit that the standard, now in existence in Ontario, is not too high a one.

MALPRACTICE CASE OF KEMPFER v. DR. J. M. CONERTY.

THIS has been a long and expensive suit for the defendant; but we congratulate him on the complete victory which he has, at last, secured, in the case. This victory is not merely one for Dr. Conerty, but for the entire profession of the country.

A short time ago the CANADA LANCET noted with much pleasure the verdict in the case of Town v Drs. D. and R. Archer, of Port Perry. Justice Falconbridge on that occasion delivered a very full and able judgment, and dismissed the action. We also referred to the case Lynburner v. Drs. Clark and Hopkins, of Dunnville, in which Justice Ferguson dismissed the action.

These cases, taken along with the case of Dr. Conerty, of Smith's Falls, and tried by Justice MacMahon, constitute a series of great importance to the medical profession of this country. These professional brethren are to be congratulated on the complete vindication they have received at the hands of the three learned justices who heard the cases.

But these verdicts were not obtained for nothing. Victories have their prices, and often come high. Much valuable time and thought must be expended upon such defences, to say nothing of the money. In such cases, it would often be much cheaper to pay something and have done with the matter. It is, therefore, all the more a matter of pride that

these defendants were willing to make any sacrifice rather than that of honor.

It is here that a Medical Defense Association would find useful work to perform. These verdicts are for the good of the whole profession, and ought not to be obtained at the sole cost of the defendants. To the entire profession, the cost of such trials would be slight. To any one member of it, the cost might be very heavy and vexatious.

We hope that the Defense Association may bestir itself among the profession. We would also urge upon the members of the medical profession the advisability of joining the Defence Association.

EDITORIAL NOTES.

The Canada Medical Association.

In the CANADA LANCET for June and July special attention was given to the meeting of the Canada Medical Association to be held, this year, in Montreal on September 16th, 17th and 18th. It is hoped there will be a large attendance.

Bellevue Hospital.

We have much pleasure in directing attention to the announcement of the above Hospital in THE CANADA LANCET.

Canadian Medical Association.

Intending delegates to the thirty-fifth annual meeting of the Canadian Medical Association to be held in Montreal on the 16th, 17th and 18th of September should take note of the following additional information issued from the Transportation Department: Owing to a clerical error relating to points east of Montreal, the announcement should have read—If ten (10) or more delegates are in attendance from Quebec City, Megantic and east thereof, holding standard convention certificates, delegates from such points will be issued tickets, free, for return.

A side trip via the Richelieu and Ontario Navigation Co. has been arranged for to Quebec City from Montreal at \$4.00 for the round trip.

The time limit for delegates attending from points west of Fort William has been extended to the 12th of October, permitting delegates from the west to arrive home by that date.

Delegates may go and return by the Richelieu and Ontario steamers in the usual way by asking for that route and obtaining a standard convention certificate.

The entertainment committee, of which Dr. H. S. Birkett is chairman, has arranged the following programme: Tuesday, a garden party ;

Wednesday, the Grand Trunk Railway has invited the members of the Association to inspect the Victoria bridge, and will take them to Lachine where a lunch will be served. In the evening there will be a smoking concert in the Victoria Rifles' Armoury.

A fine list of papers has been promised, which in addition to clinics in the various hospitals and the Pathological Museum will comprise a programme which will prove both interesting and instructive.

Any further information may be secured by applying to the Local Secretary, Dr. C. F. Martin, 33 Durocher St.; Dr. J. Alex. Hutchison, Chairman of the Transportation Committee, 70 McKay St., Montreal, or to George Elliott, 129 John St., Toronto, General Secretary.

The Environments of Childhood.

Dr. Christopher, in his address before the Pediatric Society, in May last, contended that, of the many Environments of childhood, nutrition and infection took a first place. Next came physical and mental activity. Close to these were clothing, dwelling, climate, and discipline. Little was known, as yet, of the influence of nutrition on disease. It was a most remarkable fact that, owing to some condition of the body, scarlet fever was far most frequent during the second two years of life.

Appendicitis.

Sir Frederick Treves, in his Cavendish Lecture on the above subject, states that the death rate in the disease is about 5 per cent. Cases operated upon in the acute stage yield a death rate of 20 per cent., or more. The removal of the appendix in the quiescent period has a mortality of about 1 in 500. Our knowledge of the pathology of the disease and its mortality does not sanction opening the abdomen in every acute case. Immediate operation is, however, always demanded in extra acute cases; and where there is reason to believe suppuration has taken place. In every case of a definite attack, the appendix should be removed during quiescence.

Dr. Geo. W. Balfour on Digitalis.

Digitalis ought never to be prescribed in any case of senile heart without the addition of one or other of the vascular stimulants, and of these iodide of potassium is the most generally useful, acting well and persistently in a moderate dose, and free from any objectionable effect. In all senile hearts, whatever their character or special symptom may be, we must always remember that digitalis uncombined with one or other of the vascular stimulants is never so beneficial as when it is so combined, is certain to produce discomfort, and is very likely to do serious damage.

Abiotrophy.

Sir W. R. Gowers, who has done so much in the way of elucidating the problems of neurology, has recently coined the new and very expressive term, "abiotrophy," which signifies failure of nutrition from defective vitality, from a, bios, and trophe, or absence of life nutrition. He applies the term to those conditions, in which a tissue takes on degenerative changes instead of going on in its normal development. Iodopathic muscular atrophy, myopathic muscular dystrophy, psuedo-hypertrophic paralysis are all examples of disease that come under this term, where some inherent lack of development power exists.

Dr. McCall Anderson on Nervous Syphilis.

Whenever we suspect that a nervous affection is of a syphilitic nature, we should attack it at once with anti-syphilitic remedies, and just as energetically as if we were absolutely certain of our diagnosis. A faltering hand under such circumstances is fatal. A very prevalent belief with regard to the treatment of syphilis is, that mercury is the remedy in the early, and the iodides in the late stages. Though this is true, mercury may succeed in an old case, after the iodides have failed. Push the iodides until the symptoms yield or they disagree with the patient. The best mode of administering the mercury is by innunction.

Advances in Surgery.

Sir John E. Euchsen, in his work on surgery, twenty-five years ago made the statement that operative surgery had almost reached a finality. Looking over those years, one can see how far that great surgeon was wrong. Enormous advances have been made in surgical procedures since the above opinion was uttered. The brain and spinal cord have been freely operated upon, abdominal surgery has come into practical existence during these years, the treatment of deformities and tendon transplantation are mainly within this period. The surgery of the kidneys and the thyroid gland dates within these twenty-five years, for all practical purposes, and that of the prostate gland, etc. A glance at a work on Operative Surgery written then and now shows the great strides that have been taken onwards by this branch of the heading art. In addition to the advances in the scope and range of operative procedures, another noteworthy advance is in the numbers who are competent to perform the most difficult operations. This is due to antiseptics, the general use of anæsthetics, the multiplication of hospitals, and the superior training now given the medical student.

Deciduoma Malignum.

Since 1889, when Sanger described malignant growths in the uterine cavity, following parturition, as arising from the decidua, the term deciduoma malignum has been very common. At the recent meeting of the British Gynecological Society, Dr. Herbert Snow discussed the question fully. He took the position that cancer does not commence during pregnancy. When it shows itself soon after delivery, or abortion, it really had begun before impregnation, and advances rapidly after the uterus is emptied. Decidnoma malignum, as a growth from chorionic tissues, never occurs. The older views are therefore wrong as to its origin.

A Rational Diabetic Diet.

Dr. Rudolph Kolisch, lecturer on medicine at the University of Vienna, concludes an article on the above subject in the following manner:—(1) The treatment of diabetes has to discover the toleration capacity for carbohydrates, and the minimum of nutriment on which the patient can exist, if the demand for food is to be gradually reduced. (2) The toleration capacity for carbohydrates depends upon the foods that are given along with them. It is advisable to limit the quantity of albumen to that absolutely necessary. (3) A vegetable diet agrees with diabetes better than any other, as it contains the minimum of calories and albumin and the maximum of carbohydrates. (4) The proportion of fat must be determined according to the requirements of the diabetic.

Injuries to Nerves.

In a lecture at St. Bartholomew's Hospital a short time ago, and published in the *Lancet* of July 19, Mr. Anthony Bowlby points out that, when a nerve is cut, a slow degeneration sets in upwards, and extends to the cord. There is also a much more rapid degeneration downwards. After this early downward degeneration, there is a partial regeneration of the pripheral portion, even though it does not reunite with the proximal portion. These partially regenerated nerve fibres undergo degeneration subsequently, unless the severed nerve becomes united. He points out also that sensory nerve fibres will unite, though the ends are some distance apart. They seem to have the power to bridge over considerable space. Motor fibres have very little, or none, of this power. The muscles supplied by a motor never rapidly atrophy and degenerate, after the nerve has been divided. When the nerve is sutured, the union is not so rapid, nor so perfect, as to prevent much of the degeneration. But in time the sensation returns, though in a confused manner, as the fibres do not join as they were before the division. The motor fibres

also unite differently to their first condition. This causes confusion of motion, as well as of sensation. The restoration of motive power, even if the suture be immediate, is never perfect.

Medical Coronation Honors.

His Majesty, King Edward, has conferred a number of high distinctions upon the following members of the medical profession: Lord Lister is made a member of the Order of Merit, and also one of His Majesty's Most Honorable Privy Councillors. Sir Frederick Treves and Sir Francis Laking have been created baronets. The order of Knighthood has been conferred upon Mr. Victor Horsley, of London; Dr. William Mac-ewan, of Glasgow; Dr. Isambard Owen, Chancellor of the University of Wales; Prof. T. R. Fraser, of Edinburgh; John Halliday Croom, of Edinburgh; Mr. H. G. House, President R.C.S., England; Mr. Thomas Myles, P.R.C.S.I., of Dublin; Dr. W. J. Collins, Honorary Secretary, League of Mercy; Mr. Alfred Cooper, of St Mark's Hospital, London; Dr. A. Conan Doyle, Author, and who did such good service in South Africa; Dr. William Church, President, R.C.P., London; and Hon. Frederick W. Borden, M.D., Minister of Militia, Canada.

Digestive Ferments.

Dr. John C. Hemmeter remarks in *Medical News* that one of the commonest mistakes made in the treatment of indigestion is the indiscriminate prescribing of pepsin and hydrochloric acid. It may be laid down as a rule that if there be free hydrochloric acid, there is also sufficient pepsin. It is much better to get the stomach to form its own pepsin than to supply it. Pepsin is not regarded by the writer as worthy of much attention, and he has ceased to employ it. With regard to pancreatin, the writer states that it should not be given with pepsin, nor in a hydrochloric acid combination. There is only one indication for the use pancreatin, the permanent deficiency of hydrochloric acid, and enzyme formation of the stomach. In this case it should be given in doses of 4 to 8 grains, with the same quantity of sodium bicarbonate, in tablets. Two to four of these are taken 15 minutes after meals. As far as possible avoid the use of digestive ferments.

Gastralgia.

Many patients present themselves, complaining of pain in the stomach. It is not safe to diagnose cancer or ulcer, because there is pain. Nor is pain a necessary evidence of dyspepsia. Many suffer from pain in the stomach who are not the subjects of this condition. It is worthy of note that very many cases of pain in the stomach can be cured by the administration of arsenic.

OBITUARY.

THOMAS H. WATT, M.D., M.R.C.S., ENG.

Dr. Watt died at Niagara-on-the-Lake, July 3rd in the 80th year of his age.

J. T. SUTHERLAND, M.D.

Dr. J. T. Sutherland died suddenly, July 11th., of heart disease in his home at Leamington, where he had practised since 1883. A widow survives him.

JAMES K. JOHNSTONE, M.D.

Dr. Johnstone, of Thorold, graduated at Victoria University in 1870. For a time he practised at Elizabeth, N.J., and Greenville, Ont. He went to Thorold in 1879, where he continued until his death, a few weeks ago.

T. H. HORSEY, M.D., M.P.

We regret exceedingly to record the tragic death of Dr. Horsey, of Owen Sound. He was in the engine room of the Sun Portland Cement Works, on July 23rd, when the flywheel burst. He was struck on the head, receiving a severe scalp wound, fracture of skull, and brain injury. He lived only a few hours. Dr. Horsey was a graduate of Queen's, Kingston, and had been practising in Owen Sound since 1888. A few years ago he travelled extensively in China and Japan. He was elected to the House of Commons, for North Grey, in 1900. He was an able and fluent speaker. He was the originator of the Victoria Day Bill. His wife is the daughter of Dr. McDonald, member for East Huron. We extend to Mrs. Horsey our sincere sympathy.

PERSONAL.

Dr. J. H. Bell, of Kingston, has been seriously ill.

Dr. Brooks is leaving Tottenham for Gore Bay.

Dr. Frank C. Trebilcock has located in Enniskillen.

Dr. Meek, of London, has gone on a trip to England.

Dr. Loughheed, formerly of Petrolia, has located in Strathroy.

Dr. O. Weld, of Vancouver, B.C., has gone on a trip to Australasia.

Dr. W. H. Drummond, of Montreal, sailed for Glasgow July 16th.

Drs. Olmsted and Malloch, of Hamilton, left on July 30th for Muskoka.

Dr. Bruce Riordan has returned from his holidays, New London, Conn.

Dr. R. Casgrain, of Windsor, left in the early part of July for England.

Dr. G. Sterling Ryerson returned in the latter part of July from England.

Dr. Rogers, of Ingersoll, is recovering from an attack of typhoid fever.

Dr. Brett, of Banff, was taken suddenly ill with appendicitis July 13th.

Dr. Winnett arrived home from the Old Country in latter part of July.

Dr. Lorne Robertson has gone into partnership with his father in Stratford.

Dr. George S. Young, of Prescott, was married to Miss Eva Greenhill on 1st July.

Dr. Wishart, of London, has returned from his visit to England and the Continent.

Dr. H. P. H. Galloway, of Toronto, has been visiting at Rat Portage and Winnipeg.

Dr. Geikie, of Toronto, has been spending his holidays in the Maritime Provinces.

Dr. Fissette, of Brantford, has gone to New York for a post graduate course of study.

Dr. Gordon Draeseke has been appointed house surgeon to Toronto Western Hospital.

Dr. J. M. Bell and Miss Ada Hynds, both of Acton, were united by marriage on July 2nd.

Dr. Crane, of Wallacetown, has returned home after a visit to the New York hospitals.

Dr. J. A. Ashbaugh, Medical Health Officer of Windsor, has recovered from his recent illness.

Dr. Colin G. Robertson, a recent graduate of McGill, is going to locate in Vankleek Hill.

Dr. Alfred C. Walker and Miss Anna Gould, both of Simcoe, were married in the end of June.

Dr. J. MacRae, of Johns Hopkins Hospital, Baltimore, recently visited his parents at Guelph.

Dr. Claude Wainwright, has been appointed house surgeon to St. Michael's Hospital, Toronto.

Dr. J. S. Niven, of London, had an attack of blood poisoning in the hand a short time ago.

Dr. Colthurst, of Bothwell, and Miss Helen Amos, of St. Mary's, were united in marriage on July 16th.

Dr. Samuel McCallum, of Thornbury, and Miss Maude E. Andrews, of the same place, were married July 3rd.

Dr. J. T. Clarke, of Toronto, entertained Lieut. J. A. Roberts, just returned from South Africa on 24th July.

Dr. J. C. Mitchell, late of Enniskillen, has been appointed to the staff of the Asylum for the Insane, Toronto.

Dr. T. J. Moher, of Peterborough, has been appointed assistant superintendent of the Asylum for Idiots at Orillia.

Dr. D. J. Gibb Wishart, of Toronto, is spending the month of August, on his island at the Madawaska Club, Go-Home Bay.

Dr. Macdonald, late house surgeon Toronto General Hospital, has gone into partnership with Dr. Jameson of Durham.

Dr. Lett, owing to ill health, has resigned his position in the Home-wood Retreat at Guelph. He is succeeded by Dr. A. F. Hobbs.

BOOK REVIEWS.

METARSAL FRACTURE.

Reprinted from *American Medicine* of April.

A PAMPHLET has been issued by the Pennsylvania Society for the prevention of Tuberculosis, containing the report for the year ending March, 1902. The report contains much useful information for the prevention of this disease. The topics covered by the report are:—How to avoid contracting the disease; how persons suffering from tuberculosis can avoid giving the disease to others; how hotelkeepers, storekeepers and manufacturers can help to prevent the spread of the disease and the predisposing causes and how they can be overcome. The pamphlet is for free distribution.

INTERNATIONAL DIRECTORY OF LARYNGOLOGISTS AND OTOLOGISTS

This little book will prove useful to those engaged in the above specialties.

HAY FEVER AND ASTHMA.

THE author contends that we cannot cure the nervous side of these cases, nor can we prevent dust from entering the nostrils. The only means of cure, therefore, lies in the removal of growths, exostoses, or thickened mucous membrane, and the straightening of deviated septa. He condemns the use of the cautery.

FIRST AID TO INJURED AND SICK.

THIS is a pocket book, bound in limp covers, containing 300 pp. It is full of the most trustworthy information, carefully arranged. The illustrations are numerous and excellent, and the typography is all that could be desired. We can cordially recommend this handy little volume.

THE JOHNS HOPKINS HOSPITAL REPORTS.

Vol. X, Nos. 3, 4 and 5.

Baltimore: The Johns Hopkins Press, 1902.

THE contents of the present fasciculus are: (1) The pathological changes in Hodgkin's disease, with special reference to its relation to tuberculosis; (2) diabetes insipidus; (3) observations on the origin and occurrence of cells with eosinophile granulations in normal and pathological tissues; and (4) placental transmission, with report of a case during typhoid fever.

It would be quite impossible to review in extenso this interesting report. The articles are well illustrated, and the investigations have evidently been conducted in a very thorough manner. We shall content ourselves by giving the readers of THE CANADA LANCET the main conclusions arrived at in the above named studies.

Hodgkin's disease is studied by Dorothy M. Reed, M.D. The conclusions drawn from these studies of cases and the literature upon the subject are:

(1) We should limit the term Hodgkin's disease to designate a clinical and pathological entity, the main features of which are painless

grogressive glandular enlargements, usually starting in the cervical region, without the blood changes of leukaemia.

(2) The growth presents a specific histological picture, not a simple hyperplasia, but changes suggesting a chronic inflammatory process.

(3) The microscopical examination is sufficient for the diagnosis. Animal inoculation may confirm the decision by its negative results.

(4) Eosinophiles are usually present in great numbers in such growths, but not invariably. Their presence strengthens the diagnosis.

(5) The pathological agent is as yet undiscovered. Tuberculosis has no direct relation to the subject.

The second subject is that of diabetes insipidus, which is ably discussed by Dr. T. B. Fletcher, a graduate of Toronto.

His conclusions are: The old classification of diabetes insipidus under the headings of hydruria, azoturia, and anazoturia is no longer tenable, the nitrogenous constituents of the urine being almost entirely dependent on the nature of the food. Diabetes insipidus comes under two classes, the primary or idiopathic, without organic basis; and the secondary or symptomatic, where there is some organic change in the nervous system or abdominal viscera, etc. Tumors involving the medulla and floor of the fourth ventricle, cerebral hæmorrhages, and basilar meningitis are the commonest organic lesions causing the disease. Syphilis appears to be a cause oftener than is supposed, most frequently by a basilar meningitis. Diabetes insipidus is a rare disease, occurring about once in every 100,000 cases of sickness. Four of the five cases gave evidence of cerebral disturbance, and the ages were 44, 32, 25, 36, and 35. They were all males. In all five cases, thirst was the first symptom to attract attention. The nature of the disease is uncertain, but there is some nervous disturbance, causing a vaso-motor derangement of the renal vessels and constant congestion of the kidneys. The most frequent changes found after death are enlargement and congestion of the kidneys. The treatment must be directed to any discoverable causes.

The article on placental transmission by Dr. Frank W. Lynch is of much interest. He concludes that the typhoid bacillus may pass from the mother to the child in utero. The resulting disease in the fetus is a septicæmia. In cases of placental transmission there are usually placental hæmorrhages. The child usually dies in utero or soon after birth. The placental transmission of infection does not always happen in typhoid fever.

MISCELLANEOUS.

ANTI-KAMNIA AND SUBSTITUTES.

THE Antikamnia Chemical Company is determined to put a stop to all substituting and counterfeiting on their preparations, as shown by their prosecutions in New York and New Orleans.

BOVININE FOR CHILDREN.

DR. C. W. Price, of Richmond, Maine, has used Bovinine with excellent results in saving starving bottle-fed babies. This corresponds with the experience of Dr. T. J. Briggs, of Stamford, Conn., who finds it useful in the anæmia and constipation of children.

ADRENALIN IN HAY FEVER.

THE application of adrenalin chloride, 1 part in 5,000 parts normal saline solution is a good spray for the nostrils in hay fever. It may be applied on a pledget of cotton wool in the strength of 1—1000. A few drops of the weaker solution may be instilled into the eyes.

GLYCO-THYMOLINE IN DIARRHŒA.

DR. M. A. Auerbock, writing on the summer diarrhœas of children speaks very highly of the flushing out of the colon with glyco-thymoline (Kress and Owen) of the strength of 25 per cent. solution made with iced water. The glyco-thymoline may be given internally, alone or in combination.

COLCHI-SAL.

EDMUND Gros, M.D., Paris, writes in high terms of the value of Colchi-Sol (Fougera) in the treatment of the many affections that arise from an excess of uric acid in the system. Some of these affections are gout, rheumatism, asthma, some forms of bronchitis and dyspepsia, eczema, urticaria, migraine, neuralgia, etc.

STEARNS ANTITOXIN.

THE Stearns Biologic Laboratory of Detroit, have decided to put out the regular antitoxin with their special bulb syringe. Heretofore they have confined the syringe to the concentrated serum. As their

antistreptococcic, as well as both concentrated and regular antidiphtheretic serums are now offered with this very convenient device, it should materially increase the use of Stearns biologic products.

SANMETTO IN IRRITABLE AND ATONIC CONDITIONS OF THE GENITO-URINARY ORGANS.

F. A. Cromley, M. D., Gallipolis, Ohio, has used sanmetto quite extensively in his practice for a number of years, and has learned from the universally good results obtained from its use to pin his faith to it in all irritable or atonic conditions of the genito-urinary organs. He finds it the true aphrodisiac in both male and female patients. Since he has used sanmetto prostatitis has lost much of its terrors and cystitis has ceased to be the grave disease it was before its use. I shall continue to prescribe sanmetto.

AN ANALYSIS OF HUMAN CHYLE.

THE opportunities for making a satisfactory analysis of the human chyle are so rare that more than ordinary interest attaches to the report by E. Wace Cartier in the *British Medical Journal* for July 19th. An accidental wound of the thoracic duct near its entrance into the veins permitted the collection of the fluid. The case was a healthy girl, aged ten. The first collection of 5.5 c. cm., exuded between 11 a.m. and 5 p.m. during which time a meal had been taken gave the following result on analysis:

Water, 98.12 per cent.	
Fat, lecithin, cholesterin, 4.88 per cent.	} Total solids,
Mineral salts, proteids, etc., 3.00 per cent.	
	7.88 per cent.

The other sample was mixed chyle and lymph, collected during the succeeding two and a half days, till all flow ceased, and was by analysis:

Water, 92.519.	
Fat, lecithin, cholesterin, 2.820.	} Total organic solids,
Proteid, 3.840.	
Fikrin and other organic substances, 0.391.	
	7.051.
Na Cl, 0.155.	} Total mineral matter,
Other salts, 0.275.	
	0.430.
	Total solids, 7.481.

These results coincide fairly closely with those of other observers, except that the fats in the first case are higher—due probably to the recent injection of food—and the amount of Na Cl smaller.

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